



Infrastructure
Management Group, Inc.



City of Worcester

Worcester Regional Airport

Airport Aviation and Airline Strategic Planning and Marketing

Contract No. 73-8221J

Final Report

November 2005



Overview

This final report covers all of the deliverables for the Worcester Airport Strategy Assignment.

- ✈ The City of Worcester (the City) issued an RFP on August 13, 2004 to assist with various strategic decisions regarding the management and future governance of Worcester Regional Airport (the Airport or ORH).
 - ✈ The assignment (the Strategy Study) is intended to provide the City with immediate advice on setting its short- and long-term policies for the airport.
 - ✈ IMG was awarded the contract in October, 2004.
 - ✈ The kick-off meeting was held on November 16 and 17, 2004 in Worcester.





Overview

This final report covers all of the deliverables for the Worcester Airport Strategy Assignment (cont'd).

✈ The report covers the following deliverables:

1. Critical Airport Issues Review

- ✈ What is the airport's current status?

2. Future Operation/Governance

- ✈ Financial Implications of Governance and Operating Scenarios.
- ✈ Financial, Regulatory and Legal Implications of Closure.
- ✈ Non-aviation Revenue Generating Opportunities.

3. Air Service Marketing Strategy

- ✈ Assessment of the Potential for Commercial Air Service.
- ✈ Marketing Strategy.

4. Recommendations for the Future

- ✈ Next Steps Towards Maximizing Success.



Overview

This final report covers all of the deliverables for the Worcester Airport Strategy Assignment (cont'd).

✈ This work is based upon:

- ✈ Meetings held with City, airport and other community officials in Worcester
 - November 16 - 17, 2004
 - January 13 - 14, 2005
 - February 3 - 4, 2005
 - March 21-22, 2005.
- ✈ Interviews, conference calls, correspondences, data and other available documents from:
 - City
 - Airport
 - Massport
 - Master Plan Team
 - New England Regional Aviation System Plan (NERASP) Study
 - Federal Aviation Administration (FAA)
 - Worcester Regional Chamber of Commerce
 - and other industry sources.





Overview and Executive Summary

Worcester Regional Airport (ORH) is a valuable regional transportation facility and can become an asset to Worcester's economic development.

- ✈ ORH does not have any critical barriers preventing it from providing commercial air service, despite some challenges to overcoming existing perceptions.
- ✈ Given the regional competitive environment, ORH's most likely opportunities lie with new entrant, start-up, and/or charter airlines serving large southern and western destinations.
- ✈ Worcester must implement an aggressive multi-faceted marketing strategy in the next two years to maximize the opportunities to receive commercial air service and reduce the operating deficit.
- ✈ Even assuming optimistic scenarios, the City must be prepared to provide some operating subsidies in the near future.
- ✈ Consideration of Airport closure possibilities is premature and would involve an extremely difficult and lengthy process.



Overview and Executive Summary

Worcester Regional Airport (ORH) is a valuable regional transportation facility and can become an asset to Worcester's economic development (cont'd).

- ✈ The City would likely be required to reimburse the U.S. Department of Transportation (DOT) \$8.5 million and a percentage of future Airport property lease/sale revenue if it decides to convert/reuse ORH for non aviation purposes.
- ✈ Non-aviation opportunities not in conflict with airport operations could provide the City an additional \$330,000 per year; and between \$26.6 and \$53.2 million if the entire airport facility were deactivated, sold, and converted/reused. However, some or all of the proceeds will likely have to be shared with the FAA.
- ✈ Although ORH will likely require some level of City support, the economic impact of the Airport to the community can be substantial.
- ✈ The Master Plan will provide valuable additional data to assist the City in deciding how to strategically proceed with management and future governance at ORH.



1. Critical Issues

Despite its varied past, ORH possesses adequate infrastructure to accommodate commercial air service.

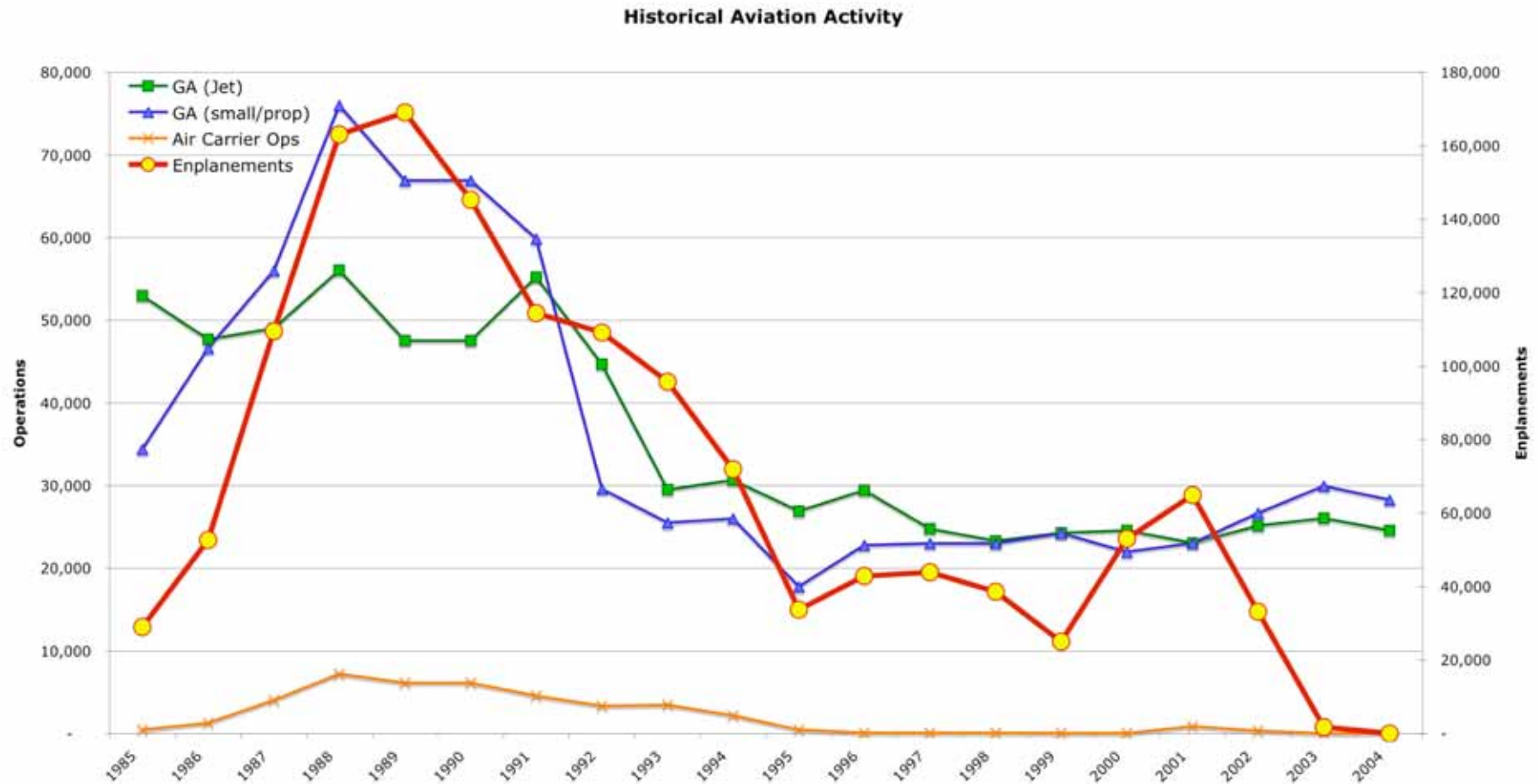
- ✈ ORH has had a turbulent history of air service.
- ✈ ORH has more than adequate infrastructure and facilities to serve greater volumes of commercial passengers than it has ever served in the past.*
- ✈ ORH does not appear to have any critical technical barriers preventing it from providing commercial air service.
- ✈ Ground access to/from downtown and major highways limits ORH's potential market (discussed following), but does not eliminate it.

* Based on a non-technical review of facilities and interviews with Airport staff and stakeholders. A technical assessment is included in the Master Plan currently underway and will identify any specific operational limitations, recommend solutions and capital investments required.



1. Critical Issues

ORH has had a turbulent history of air service.



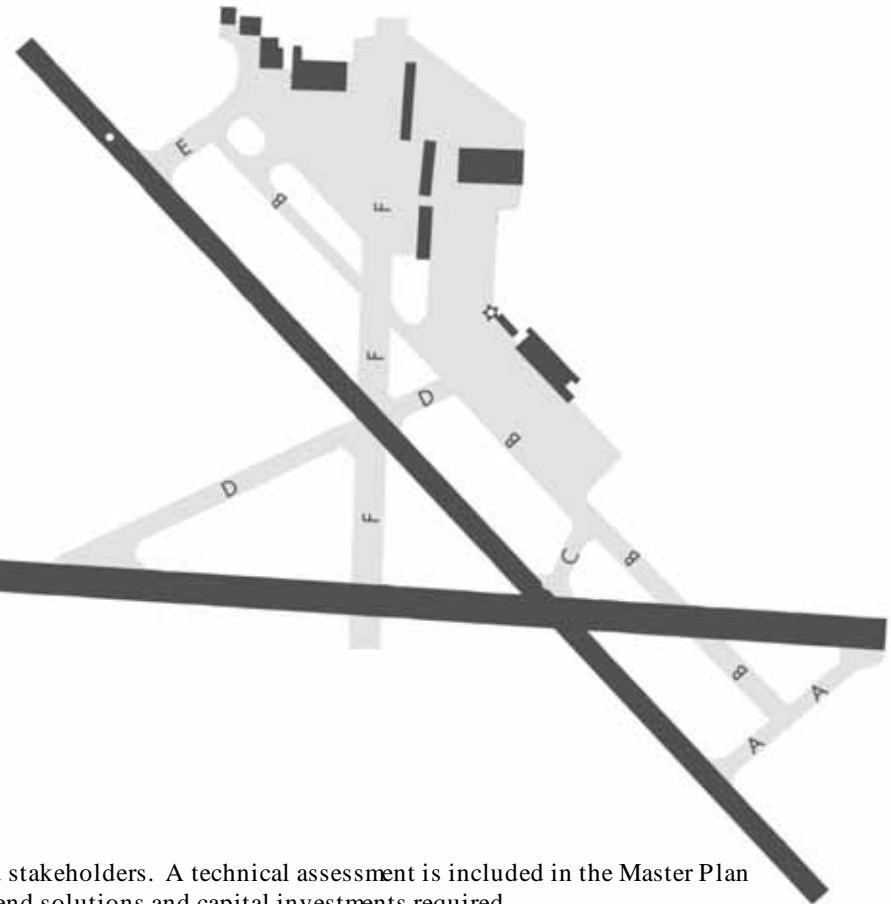
Source: Enplanements and Operations 1997-2004: Airport records
Operations 1980-1996: FAA Terminal Area Forecast (TAF)



1. Critical Issues: Infrastructure and Facilities

ORH has more than adequate infrastructure and facilities capacity to enplane well over 500,000 commercial passengers.*

- ✈ Two Runways--11/29 (7,000 ft) and 15/33 - (5,000 ft)--are adequate for all models of regional jets and mainline aircraft, Boeing 727, 737, 757.
- ✈ With 60,000 ft², six gates and two loading bridges, the terminal will have more than adequate capacity for the foreseeable future.
- ✈ The Master Plan will identify capital improvement requirements in greater detail by the second half of CY2006.



* Based on a non-technical review of facilities and interviews with Airport staff and stakeholders. A technical assessment is included in the Master Plan currently underway and will identify any specific operational limitations, recommend solutions and capital investments required.



1. Critical Issues: Inclement Weather

ORH does not have any critical technical barriers preventing it from providing commercial air service.*

- ✈ With existing Instrument Landing System (ILS) technology, inclement weather, such as fog, is not a material obstacle to commercial service operations.
- ✈ Perception and awareness of the actual capacity and limitations of ORH's landing system and ground access are more critical limitations, which can be overcome with appropriate public education.

* Based on a non-technical review of facilities and interviews with Airport staff and stakeholders. A technical assessment is included in the Master Plan currently underway and will identify any specific operational limitations, recommend solutions and capital investments required.

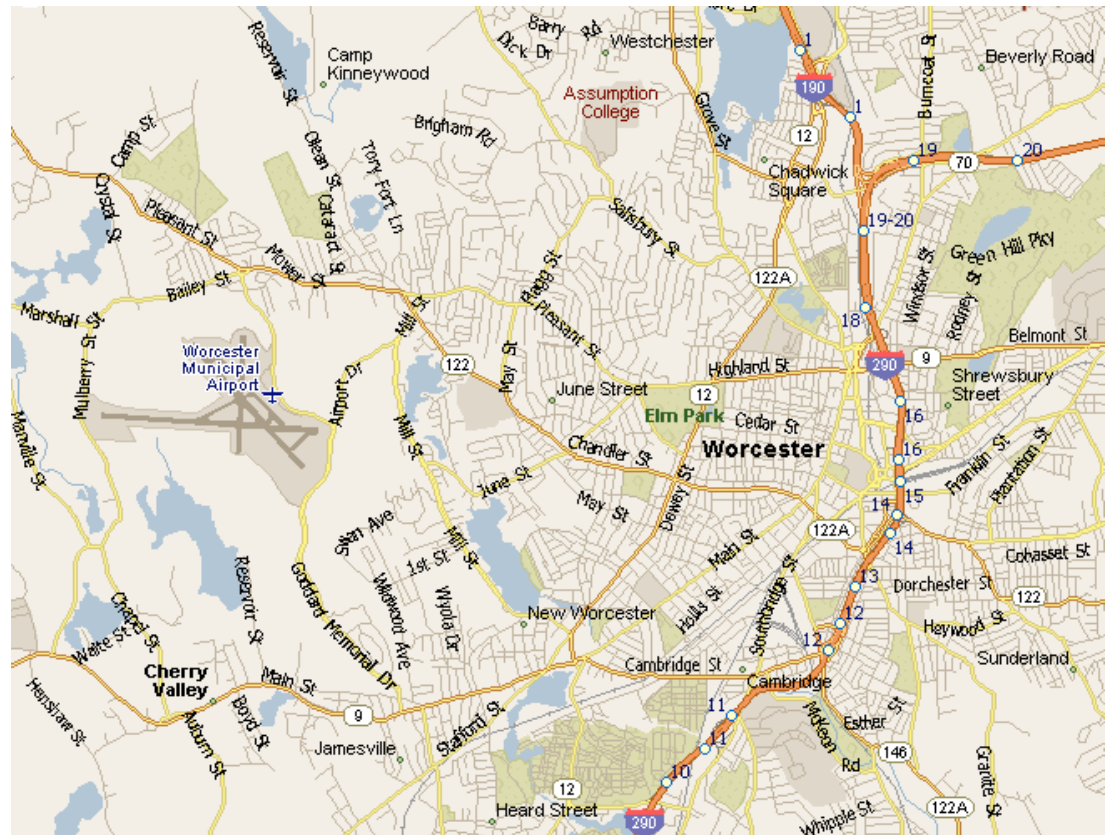




1. Critical Issues: Ground Access

Ground Access to/from downtown and major highways could increase awareness, change perceptions and expand ORH's Catchment Area.

- ✈ Potential intermediate measures that could mitigate existing ground access deficiencies:
 - ✈ Better signage including, reverse signage and pavement markings
 - ✈ Better web-based directions
 - ✈ Public awareness campaign - handout maps that clearly identify a marked route to the Airport
 - ✈ Traffic signal/light coordination.





1. Critical Issues: Ground Access

Ground Access to/from downtown and a major highway would increase awareness, change perceptions and expand ORH's Catchment Area (cont'd).

- ✈ An Airport access road would be the ideal solution, but involves:
 - ✈ environmental issues
 - ✈ strong community resistance
 - ✈ budgetary/funding constraints and
 - ✈ Most likely a minimum of five years design and construction.
- ✈ Even minor ground access improvements to existing roadways could change perceptions and expand ORH's catchment area.





2. Future Operation/Governance

Even assuming optimistic scenarios, the City must be prepared to provide operating subsidies in the near future.

- ✈ Even during a year with relatively high passenger traffic levels (2001), ORH required general fund support for one-third of its operating budget.
- ✈ To remain competitive, ORH should keep airline costs below \$7.50 per enplanement*, as it did when it had commercial service.
- ✈ Four activity scenarios were used for the preliminary financial projections to reveal short- and medium-term financial requirements for ORH.
- ✈ Three operating levels were used for the preliminary financial projections to examine the impact of different governance structures.
- ✈ IMG used standard airport and macro-economic assumptions in the financial model.
- ✈ The initiation and rapid growth of commercial air service should create a break even Airport financial position in a decade.

* \$7.50 cost per enplanement is average for jet aircraft operations. Smaller aircraft would obviously incur higher unit costs.



2. Future Operation/Governance

Even assuming optimistic scenarios, the City must be prepared to provide operating subsidies in the near future (cont'd).

- ✈ The City should seek a long-term partnership(s) with public entities, such as Massport, to operate or acquire ORH and/or leverage additional funding support from MAC.
 - ✈ If a partnership is not established and/or primary airport status* is not retained by 2008, the City should scale back ORH operation from Part 139 Certified to General Aviation (GA) services.
- ✈ The potential for non-aeronautical aviation compatible revenue could improve the overall financial position of the Airport enterprise.
- ✈ It is unlikely that a Public-Private Partnership (PPP) could work at ORH given the current lack of commercial activities and construction opportunities.
- ✈ The most viable PPP would be in the form of an operations contract, although still not likely.

* A Primary Airport is defined by FAA as enplaning at least 10,000 passengers annually.



2. Future Operation/Governance

Even assuming optimistic scenarios, the City must be prepared to provide operating subsidies in the near future (cont'd).

- ✈ It is premature to consider Airport closure and reuse while efforts are underway to study ORH's contribution to regional aviation and to attract commercial air service.
- ✈ The City must meet a very stringent criteria to receive the legal authority to cease aviation activity and redevelop ORH for non-aviation purposes from FAA.
- ✈ The legal authorization for the cessation of aviation activity at a Federally funded facility has only been granted once by the FAA.
- ✈ The City will incur financial penalties, be required to repay past Federal funds, and will likely be discouraged/prevented from extracting a profit from the sale of Airport property.



2. Future Operation/Governance

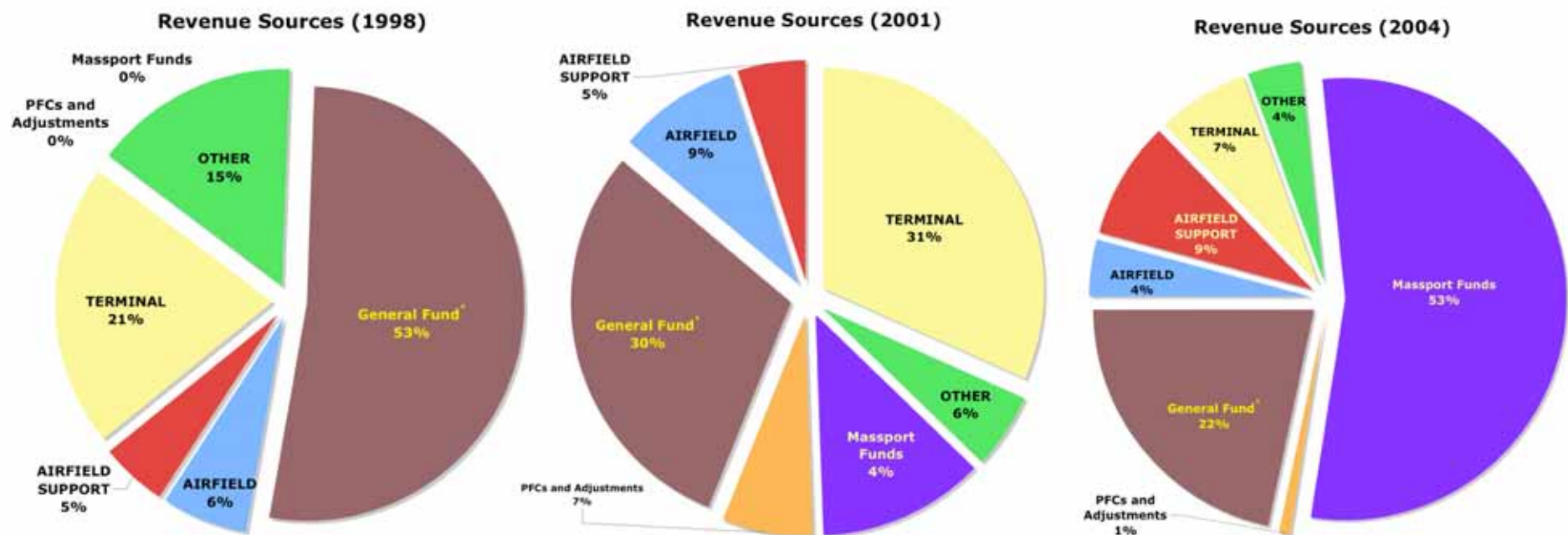
Even assuming optimistic scenarios, the City must be prepared to provide operating subsidies in the near future (cont'd).

- ✈ Aviation compatible non-aviation development opportunities could provide additional proceeds of \$330,000 per year; more detailed information is expected from the Master Plan
- ✈ Completely converting/reusing the facility for non-aviation purposes could provide additional proceeds between \$26.6 and \$53.2 million.
- ✈ Worcester is not likely to profit from the closure of ORH.



2. Future Operation/Governance: Historical Financial Conditions

Even during a year with relatively high traffic levels (2001), ORH required general fund support for 30 percent of its operating budget.



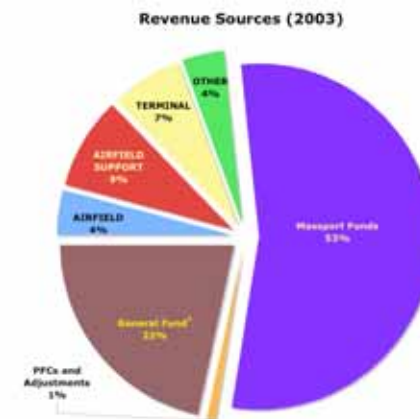
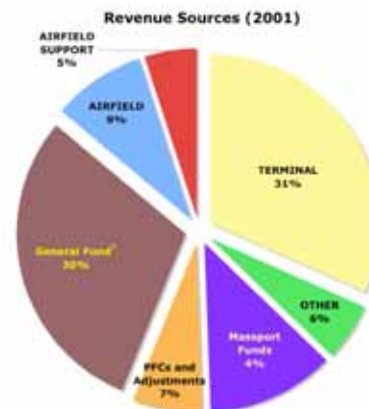
* Comprises debt service and environmental costs.
Source: Airport Records



2. Future Operation/Governance: Historical Financial Conditions

Even during a year with relatively high traffic levels (2001), ORH required general fund support for 30 percent of its operating budget (cont'd).

- ✈ Historically, in 1998 the City's general fund and the terminal, which is driven by commercial passengers, provided most of the revenue.
- ✈ By 2001 traffic had peaked and the terminal and commercial activity sustained a greater portion of the Airport.
- ✈ After commercial passenger traffic dwindled in 2003, the City and Massport became the primary funding sources.



Source: Airport Records



2. Future Operation/Governance: Historical Financial Conditions

Even during the year with highest traffic levels (2001), ORH required general fund support for one-third of its operating budget (cont'd).

Historic	Actual 1998	Actual 1999	Actual 2000	Actual 2001	Actual 2002	Actual 2003	Actual 2004
Activity							
Total Operations	53,507	53,198	51,062	52,366	55,607	57,231	61,868
Enplanements	43,742	35,010	44,647	67,465	35,609	-	-
Total Passengers	87,484	70,020	89,293	134,930	71,218	-	-
Expenditures							
Personnel Services	\$ 757,448	\$ 870,012	\$ 909,801	\$ 1,095,371	\$ 1,438,894	\$ 1,394,124	\$ 1,202,810
Ordinary Maintenance	595,024	573,255	615,628	871,103	1,540,362	1,128,540	760,331
Debt Service	497,125	497,169	509,095	506,268	513,424	571,302	621,056
Fringe Benefits	261,999	267,437	283,805	294,354	322,943	352,027	428,944
Other	33,741	100,003	33,959	-	-	-	-
Total Expenditures	\$ 2,145,337	\$ 2,307,875	\$ 2,352,287	\$ 2,767,095	\$ 3,815,624	\$ 3,445,992	\$ 3,013,140
Revenue Sources							
AIRFIELD	\$ 137,582	\$ 122,891	\$ 140,940	\$ 246,283	\$ 221,322	\$ 155,761	\$ 126,161
AIRFIELD SUPPORT	105,154	112,633	119,048	134,355	93,199	124,699	262,715
TERMINAL	453,177	430,856	557,263	877,380	983,376	442,036	196,438
OTHER	328,991	94,533	78,414	154,006	111,469	187,084	118,297
Massport Funds	-	-	250,000	341,680	1,169,467	1,751,098	1,632,460
PFCs and Adjustments	-	398,879	508,184	182,865	467,557	157,559	21,397
General Fund	1,120,434	1,148,082	698,439	830,526	769,233	627,756	655,671
Total Airport Funding	\$ 2,145,337	\$ 2,307,875	\$ 2,352,287	\$ 2,767,095	\$ 3,815,624	\$ 3,445,992	\$ 3,013,140

Source: Airport Records



2. Future Operation/Governance: Financial Competitiveness

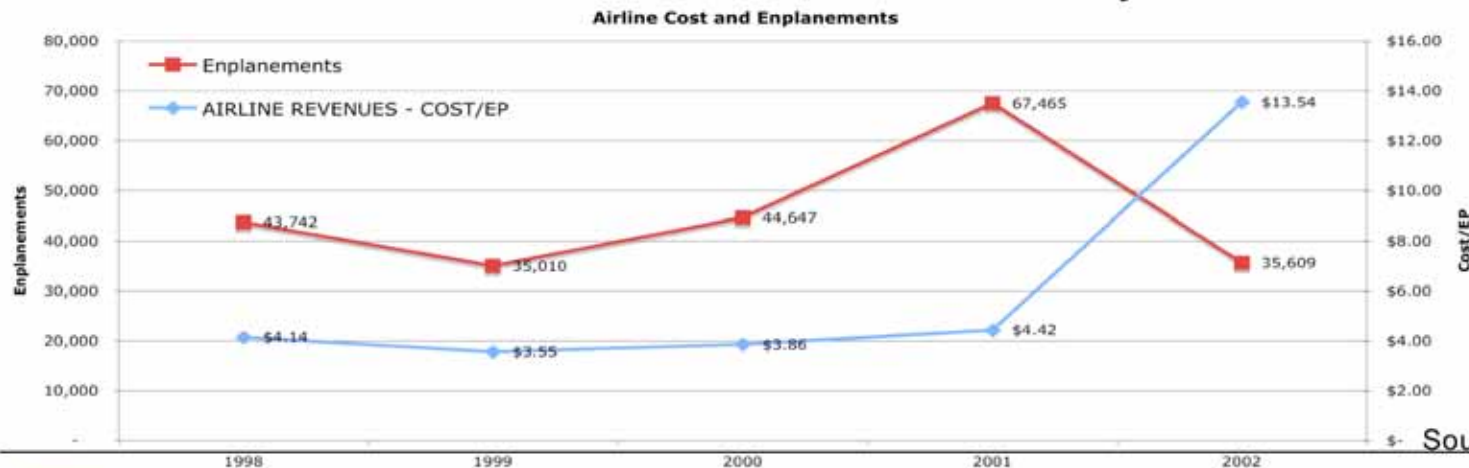
To remain competitive, ORH will have to keep airline costs below \$7.50 per enplanement, as it did when it had commercial service.

✈ Prior to 2001:

- ✈ ORH was able to contain costs below \$5/EP
- ✈ As enplanements grew; cost/EP remained competitive
- ✈ Carriers increased seats and passengers in 2000 and 2001.

✈ Between 2001 to 2003:

- ✈ Airlines had invested in too much capacity at ORH and could not operate efficiently with reduced passenger levels.
- ✈ As cost/EP grew due to diminishing passenger levels air carriers eliminated service to reduce losses.
- ✈ Passenger traffic was not adequate to sustain profitable commercial service. Service was cut further and eventually abandoned.



Source: Airport Records





2. Future Operation/Governance: Financial Competitiveness

To remain competitive, ORH will have to keep airline costs below \$7.50 per enplanement, as it did when it had commercial service (cont'd).

- ✈ Weighted average airline cost per enplanement for ORH and competing airports shown below is **\$8.54**.
- ✈ MHT, PVD and BDL are all between \$5/EP and \$6/EP.
- ✈ Only BOS and BED have a cost/EP over \$10.

Airport	Loc ID	Landing Fees	Terminal Rental	Enplanements	Airline Cost/EP
WORCESTER REGIONAL	ORH*	\$80,925	\$336,659	35,609	\$ 11.73
LAURENCE G HANSCOM FIELD	BED	\$63,518	\$350,914	19,375	\$ 21.39
BRADLEY INTL	BDL	\$12,090,842	\$6,254,918	3,098,556	\$ 5.92
THEODORE FRANCIS GREEN	PVD	\$7,098,461	\$6,998,867	2,553,584	\$ 5.52
MANCHESTER	MHT	\$4,924,094	\$4,982,862	1,776,347	\$ 5.58
GENERAL EDWARD LAWRENCE LOGAN	BOS	\$68,969,207	\$46,418,867	11,087,799	\$ 10.41

Source: 2003 FAA Section 5100 Form 127

* ORH Landing Fee 2002 (most recent year of service)

ORH Source: Airport Records (only applies AC Landing fees and Terminal Rentals)

- ✈ In addition, previous efforts of Worcester tax assessor's office to impose a tax on airline property are highly unusual and can be harmful to ORH's competitiveness.



2. Future Operation/Governance: Financial Projections

Four activity scenarios were used for the preliminary financial projections to reveal short-, medium- and long-term financial requirements for ORH.

✈ The four scenarios are as follows:

- ✈ No Growth - 2% annual growth in general aviation activity, existing commercial activity remains level - no passenger service.
- ✈ Limited Commercial Activity - Assumes 10,000EP in 2006 with 3% annual growth in operational activity and 4% annual growth in commercial passenger activity.
- ✈ Growing Commercial Activity - Assumes 10,000EP in 2006 with 6% annual growth in operational activity and 8% annual growth in commercial passenger activity.
- ✈ Rapid Return of Service - Assumes rapid introduction of service reversing the rapid declines after 2001 and reaching peak (2001) EP level in 2009, 8% annual growth in operational activity and 10% annual growth in commercial passenger activity thereafter.



2. Future Operation/Governance: Financial Projections

Three operating levels were used for the preliminary financial projections to examine the impact of different governance structures.

✈ The three operating levels are as follows:

- ✈ General Aviation Operation - No possibility to accommodate or serve scheduled commercial or charter passenger airline or aircraft. Reduction in personnel and level of maintenance.
- ✈ City Operated Part 139 Certified Airport (minimum) - City of Worcester is solely responsible for operating ORH. Reduced level of services and operations; share Aircraft Rescue and Fire Fighting (ARFF) and other administrative services between City and ORH and reduce night time service/operation.
- ✈ Massport Partnership Operated Part 139 Certified Airport - Continued operation at the level of service currently offered at ORH.

✈ Complete closure and reuse was also analyzed outside of the financial model.



2. Future Operation/Governance: Financial Projections

IMG used standard airport and macro-economic assumptions in the financial model.

- ✈ To achieve sustained operations, the model assumes air carrier costs will need to be set at or below those at competing airports in the region (approximately \$7.50/enplanement in 2005 dollars).
- ✈ Configured to project revenues by activity measures:
 - ✈ Commercial Air Service by enplanements
 - ✈ General Aviation:
 - Private Jet activity by itinerant GA Operations
 - Single engine/smaller aircraft by local civilian operations
- ✈ Passenger Facility Charges (PFC) would be applied toward debt service.
- ✈ Inflation is assumed at 2%.



2. Future Operation/Governance: Financial Projections

The initiation and rapid growth of commercial air service should create a break even Airport financial position in a decade.

GENERAL FUND SUMMARY	Projected 2006	Projected 2007	Projected 2008	Projected 2009	Projected 2010	Projected 2015	Projected 2020	Projected 2025	TOTAL	NPV 5% - 2005\$
STATUS QUO										
Enplanements	-	-	-	-	-	-	-	-		
CITY OPERATED (GA)	\$ (986,178)	\$ (1,421,909)	\$ (1,871,173)	\$ (1,860,126)	\$ (1,885,916)	\$ (1,509,788)	\$ (1,648,175)	\$ (1,810,248)	\$ (33,845,820)	\$ (21,976,706)
CITY OPERATED (CERT. 139)	\$ (986,178)	\$ (1,421,909)	\$ (2,735,925)	\$ (2,742,173)	\$ (2,785,604)	\$ (2,503,116)	\$ (2,744,890)	\$ (3,021,109)	\$ (52,362,155)	\$ (33,137,061)
MASSPORT OPERATED (67% CONTRIBUTION)	\$ (986,178)	\$ (1,421,909)	\$ (1,373,782)	\$ (1,353,488)	\$ (1,369,873)	\$ (944,305)	\$ (1,029,042)	\$ (1,133,020)	\$ (23,344,088)	\$ (15,633,380)
LIMITED COMMERCIAL ACTIVITY										
Enplanements	10,000	10,400	10,816	11,249	11,699	14,233	17,317	21,068		
CITY OPERATED (CERT. 139)	\$ (926,616)	\$ (1,337,264)	\$ (2,559,168)	\$ (2,556,431)	\$ (2,590,164)	\$ (2,296,211)	\$ (2,474,267)	\$ (2,644,859)	\$ (47,708,520)	\$ (30,349,692)
MASSPORT OPERATED (67% CONTRIBUTION)	\$ (926,616)	\$ (1,337,264)	\$ (1,285,229)	\$ (1,260,761)	\$ (1,272,690)	\$ (869,326)	\$ (939,737)	\$ (1,008,858)	\$ (21,466,364)	\$ (14,428,818)
EXTENDED RETURN OF SERVICE										
Enplanements	10,000	10,800	11,664	12,597	13,605	19,990	29,372	43,157		
CITY OPERATED (CERT. 139)	\$ (925,614)	\$ (1,330,408)	\$ (2,529,550)	\$ (2,512,894)	\$ (2,530,832)	\$ (2,145,738)	\$ (2,146,164)	\$ (2,008,274)	\$ (43,232,336)	\$ (28,050,377)
MASSPORT OPERATED (67% CONTRIBUTION)	\$ (925,614)	\$ (1,330,408)	\$ (1,273,086)	\$ (1,242,626)	\$ (1,247,783)	\$ (819,670)	\$ (831,463)	\$ (798,785)	\$ (19,931,853)	\$ (13,625,951)
RAPID RETURN OF SERVICE										
Enplanements	10,000	35,609	44,647	67,465	74,212	119,518	192,486	310,000		
CITY OPERATED (CERT. 139)	\$ (924,930)	\$ (1,121,251)	\$ (1,956,947)	\$ (1,549,479)	\$ (1,447,710)	\$ 92,355	\$ 1,905,869	\$ 5,303,730	\$ 13,810,695	\$ 2,104,654
MASSPORT OPERATED (67% CONTRIBUTION)	\$ (924,930)	\$ (1,121,251)	\$ (991,966)	\$ (771,386)	\$ (721,004)	\$ (81,100)	\$ 505,708	\$ 1,614,177	\$ 321,375	\$ (2,552,216)

FY2006-2007 assumes Massport operation/management of ORH under existing agreement with the City in all scenarios.

Management/operation assumptions materialize in FY2008.

All annual impacts to the General Fund include annual Debt Service payments.

Annual figures do not add to Total due to the presentation of projections in five year increments.

✈️ **Massport's support is important and beneficial to ORH and the City.**

✈️ **Continuing relationship with Massport would significantly reduces the City's costs, regardless of ORH's activity level.**





2. Future Operation/Governance: Financial Projections

The initiation and rapid growth of commercial air service should create a break even Airport financial position in a decade (cont'd).

GENERAL FUND SUMMARY	Projected 2006	Projected 2007	Projected 2008	Projected 2009	Projected 2010	Projected 2015	Projected 2020	Projected 2025	TOTAL	NPV 5% - 2005\$
CITY OPERATED (GA)										
Total Airport Expenses	\$ 3,592,551	\$ 3,644,053	\$ 2,481,509	\$ 2,483,714	\$ 2,523,063	\$ 2,219,623	\$ 2,439,660	\$ 2,693,582		
STATUS QUO	\$ (986,178)	\$ (1,421,909)	\$ (1,871,173)	\$ (1,860,126)	\$ (1,885,916)	\$ (1,509,788)	\$ (1,648,175)	\$ (1,810,248)	\$ (33,845,820)	\$ (21,976,706)
CITY OPERATED (CERT. 139)										
Total Airport Expenses	\$ 3,592,551	\$ 3,644,053	\$ 3,346,260	\$ 3,365,761	\$ 3,422,751	\$ 3,212,951	\$ 3,536,374	\$ 3,904,443		
STATUS QUO	\$ (986,178)	\$ (1,421,909)	\$ (2,735,925)	\$ (2,742,173)	\$ (2,785,604)	\$ (2,503,116)	\$ (2,744,890)	\$ (3,021,109)	\$ (52,362,155)	\$ (33,137,061)
LIMITED COMMERCIAL ACTIVITY	\$ (926,616)	\$ (1,337,264)	\$ (2,559,168)	\$ (2,556,431)	\$ (2,590,164)	\$ (2,296,211)	\$ (2,474,267)	\$ (2,644,859)	\$ (47,708,520)	\$ (30,349,692)
EXTENDED RETURN OF SERVICE	\$ (925,614)	\$ (1,330,408)	\$ (2,529,550)	\$ (2,512,894)	\$ (2,530,832)	\$ (2,145,738)	\$ (2,146,164)	\$ (2,008,274)	\$ (43,232,336)	\$ (28,050,377)
RAPID RETURN OF SERVICE	\$ (924,930)	\$ (1,121,251)	\$ (1,956,947)	\$ (1,549,479)	\$ (1,447,710)	\$ 92,355	\$ 1,905,869	\$ 5,303,730	\$ 13,810,695	\$ 2,104,654
MASSPORT OPERATED (67% CONTRIBUTION)										
Total Airport Expenses	\$ 3,592,551	\$ 3,644,053	\$ 3,640,699	\$ 3,666,089	\$ 3,729,085	\$ 3,551,169	\$ 3,909,794	\$ 4,316,729		
STATUS QUO	\$ (986,178)	\$ (1,421,909)	\$ (1,373,782)	\$ (1,353,488)	\$ (1,369,873)	\$ (944,305)	\$ (1,029,042)	\$ (1,133,020)	\$ (23,344,088)	\$ (15,633,380)
LIMITED COMMERCIAL ACTIVITY	\$ (926,616)	\$ (1,337,264)	\$ (1,285,229)	\$ (1,260,761)	\$ (1,272,690)	\$ (869,326)	\$ (939,737)	\$ (1,008,858)	\$ (21,466,364)	\$ (14,428,818)
EXTENDED RETURN OF SERVICE	\$ (925,614)	\$ (1,330,408)	\$ (1,273,086)	\$ (1,242,626)	\$ (1,247,783)	\$ (819,670)	\$ (831,463)	\$ (798,785)	\$ (19,931,853)	\$ (13,625,951)
RAPID RETURN OF SERVICE	\$ (924,930)	\$ (1,121,251)	\$ (991,966)	\$ (771,386)	\$ (721,004)	\$ (81,100)	\$ 505,708	\$ 1,614,177	\$ 321,375	\$ (2,552,216)

Expenses decrease in 2015 due to final retirement of debt.

All annual impacts to the General Fund include annual Debt Service payments.

For additional decision analysis see attached Appendix A: Net Present Value (NPV) Scenario Comparison Differential Matrixes.



2. Future Operation/Governance: Partnership - Ownership

The City should seek a long-term partnership(s) with public entities, such as Massport, to operate or acquire ORH and/or leverage additional funding support from MAC.

- ✈ Consideration for a partnership should include all levels of participation from full ownership and complete funding of facilities to operating agreement and cost sharing.
- ✈ Ownership provides added upside potential and reduces risk while providing increased operational and capital development flexibility.
- ✈ The City should leverage previously allocated funds from the Massachusetts Aeronautical Commission (MAC) and may seek access to additional funding.
- ✈ **If a partnership is not established and/or primary airport status is not retained by 2008, the City should scale back ORH operation from Part 139 Certified to General Aviation (GA) services.**



2. Future Operation/Governance: Non-aeronautical Revenue Sources

The potential for non-aeronautical aviation compatible revenue could improve the overall financial position of the Airport enterprise.

- ✈ Non-aeronautical revenue opportunities will be further identified in the master plan.
- ✈ These additional revenues could allow the Airport enterprise to break even sooner and/or with less passenger activity or aeronautical revenue.
- ✈ Any aviation compatible revenue sources should be pursued independent of any aeronautical or airport financial strategy.
- ✈ Non-aeronautical revenue should not materially alter the differentials between scenarios - (See attached Appendix A).



2. Future Operation/Governance: Alternatives

It is unlikely that a Public-Private Partnership (PPP) could work at ORH given the current lack of commercial activities and construction opportunities.

- ✈ Most successful PPPs have posed an obvious value proposition to attract a private operator/developer:
 - ✈ Stewart/Newburgh (NY Metro region)--Offered 10,000 foot runway with adequate transportation access in heavily traffic-constrained New York region.
 - ✈ New Orleans Lakefront Airport--A very busy corporate and GA airport close to downtown New Orleans with non-aviation opportunities.
 - ✈ Orlando Sanford Private Terminal--Offered the opportunity to develop and operate a more efficient terminal for international charters, which could process passengers faster than at Greater Orlando International Airport.
 - ✈ JFK International Air Terminal--Opportunity to redevelop one of largest terminals in U.S. at a heavily constrained, "gateway" airport.
 - ✈ Hooks Airport, Houston--Busy corporate, GA and military airport serving the Houston region that has real estate development opportunities.
 - ✈ The lack of robust traffic levels and significant non-conflicting/non-aviation activity makes an easy "sell" a challenge.
-



2. Future Operation/Governance: Alternatives

The most viable PPP would be in the form of an operations contract, although still not likely.

- ✈ Since much of the Airport infrastructure is in place, a private partner/developer would not likely need to make major investments in the short-term, as is the case in many other PPPs.
- ✈ A private partner could potentially be convinced to take over operations for a 5 to 10 year period, with strong incentives for increasing air service, the primary purpose of such an arrangement.
- ✈ In addition to any operating subsidy, the private partner would “bank” any losses beyond the subsidy in a “PPP account.”
- ✈ Once commercial service resumed, the private partner would be credited any surplus revenues against losses banked in the PPP account.
- ✈ The private partner would receive a specified risk premium/return on the amount of losses previously banked (for example 10%) after which the private partner would share any surplus revenues 50-50 with the City.



2. Future Operation/Governance: Airport Closure and Reuse

It is premature to consider Airport closure and reuse while efforts are underway to study ORH's contribution to regional aviation and to attract commercial air service.

- ✈️ FAA will not consider closure and/or reuse propositions prior to the completion of New England Regional Aviation System Plan (NERASP).
 - ✈️ If the NERASP finds that ORH does not have a role in regional aviation the FAA would be more inclined to negotiate a closure of the facilities for aviation use.
 - ✈️ If the NERASP finds that ORH has a role within the region it would be virtually impossible to convince the FAA to allow the facilities to close for aviation use.
- ✈️ Considering closure prior to the use of the DOT Small Community Air Service grant award would be extremely premature.
 - ✈️ It would be embarrassing to any and all parties involved in the application and championing of Worcester for selection of the award, were it to not be used in good faith.
 - ✈️ The grant award presents an opportunity that should not be squandered.



2. Future Operation/Governance: Airport Closure and Reuse

The City must meet a very stringent criteria to receive the legal authority to cease aviation activity and redevelop ORH for non-aviation purposes from FAA.

- ✈ To cease aviation activity and redevelop ORH, the City must, meet the FAA criteria and receive consent from the U.S. Secretary of Transportation.
- ✈ FAA must apply a standard test for accepting the cessation of aviation activity at an airport facility: ***“The cessation of aviation activity at a federally funded facility must be proven to enhance and provide a net benefit to the national aviation system.”***
- ✈ It is not obvious how terminating aviation activity at ORH would benefit the national aviation system.
- ✈ There is no clear legal process for closing the airport, therefore any attempts to proceed with closure would be costly, uncertain and prolonged.



2. Future Operation/Governance: Airport Closure and Reuse

The legal authorization for the cessation of aviation activity at a Federally funded facility has only been granted once by the FAA.

- ✈ There has only been one airport closure in the history of aviation in the United States that has met this criteria.
 - ✈ Richards-Gebaur, a general aviation (GA) facility, operated by Kansas City, MO closed in 1997.
 - ✈ The airport was allowed to cease aviation activity and reuse the real estate for non-aviation purposes, by proving that the financial losses generated by that facility was a detriment to the operation and future development of other aviation facilities operated by the same entity (Kansas City) and in extremely close proximity to that facility.
- ✈ Merrill C. Meigs Field (Chicago, IL) was closed in 2003.
 - ✈ The airfield was destroyed with impunity by Mayor Daley in an overnight operation.
 - ✈ The facility's grant assurances had a unique provision set back in 1946, which limited the term of the assurances to the term of the land lease.
 - ✈ The land was leased by the Department of Public Works from the Chicago Park District in 1946 for the term of 50 years.
 - ✈ The land lease expired in 1996, effectively terminating all grant assurances.



2. Future Operation/Governance: Airport Closure and Reuse

The City will incur financial penalties, be required to repay past Federal funds, and will likely be discouraged/prevented from extracting a profit from the sale of Airport property.

- ✈ If the City were successful in convincing the FAA that reusing ORH for non-aviation purposes will be a net benefit to the national aviation system, it still would:
 - ✈ Be required to pay back \$8.5 million of unamortized federal grant monies.
 - ✈ **Would likely be required to pay a negotiated portion of the revenue generated from the lease or sale of the Airport property during the next 20 years.***

* Pursuant to Policy and Procedure Concerning the Use of Airport Revenue [Docket No.28472], The Airport and Airway Improvement Act of 1982 (AAIA) - 49 U.S.C. §47107(b), the FAA Authorization Act of 1994 - Public Law 103-305, and the Airport Revenue Protection Act of 1996 - Public Law 104-264 110 Stat. 3269.



2. Future Operation/Governance: Non-Aeronautical Real Estate Development

Aviation compatible non-aviation development opportunities could provide additional proceeds of \$330,000 per year; more detailed information is expected from the Master Plan.

✈ This is based on the following assumptions:

- ✈ At least 40 acres of non-aviation development.*
- ✈ An average industrial property land value of \$81,813/acre.
- ✈ All developable properties have access to support infrastructure (i.e. water, sewer, power, etc.) and no major site work/clean up is required.
- ✈ Worcester will abandon the previous policy of leasing industrial property at heavily discounted prices (e.g. \$1/acre).

✈ The Master Plan study will document actual aviation and non-aviation property and refine potential uses and values (to be completed in 2006).

* Based on a recent request for proposal issues by the City of Worcester for the development at the airport industrial park properties.



2. Future Operation/Governance: Non-Aeronautical Real Estate Development

Converting/reusing the facility for non-aviation purposes could provide additional one time revenue between \$26.6 to \$53.2 million from the sale of Airport land.*

✈ This is based on the following assumptions:

- ✈ A quarter (25%) to half (50%) of the 1,300 acres of aviation land could be developed, due to environmental, site grading, and other constraints.*
- ✈ An average industrial property land value of \$81,813/acre.
- ✈ No cost considered/included for infrastructure improvements (water, sewage, utilities, or environmental mitigation) to parts of the property not already served.

* Based on a preliminary estimate. A definitive land development assessment will be included in the Master Plan currently underway.



2. Future Operation/Governance: Non-Aeronautical Real Estate Development

Worcester is not likely to profit from the closure of ORH.

- ✈ Some portion of these proceeds would be remitted to FAA under a negotiated closure agreement, as indicated previously.
 - ✈ FAA revenue diversion policy would prevent the City from profiting on the sale of ORH land.
 - ✈ Likely scenario would require ORH to remit all profit/revenue from the sale/lease of land to FAA for the funding of other regional aviation facilities.





3. Air Service Marketing Strategy

Given the regional competitive environment, ORH's most likely opportunities lie with new entrant, start-up, and/or charter airlines.

- ✈ There are several ways to identify the size of ORH's market, based on geography.
- ✈ The Catchment Area yields a demand of approximately two million annual passengers, based on a population of approximately one million.
- ✈ ORH is essentially surrounded by competitors*.
- ✈ Two potential market areas were analyzed.
- ✈ Worcester's Primary Air Trade area contains a population base of 623,530.
- ✈ Worcester's Catchment Area contains an additional 381,029 residents for a total population base of 1,004,559.
- ✈ For the time being, competing airports do not have major capacity constraints --including Boston-Logan.
- ✈ Direct point-to-point service to top origin and destination (O&D) markets will provide ORH with the greatest long-term probability for a successful commercial service airport.

* Airport directly surrounding ORH include BOS, MHT, PVD, BDL, and BED.



3. Air Service Marketing Strategy

Given the regional competitive environment, ORH's most likely opportunities lie with new entrant, start-up, and/or charter airlines (cont'd).

- ✈ The NERASP airport survey provides the most detailed and up-to-date information on the demand for destinations in ORH's market.
- ✈ An Internet-based customer/passenger profile survey conducted in the first quarter of 2005 by the Worcester Regional Chamber of Commerce helps validate the NERASP data.
- ✈ Ticket lift data from 1999 identified Orlando, Chicago, New York and Atlanta as the largest ORH market destinations.
- ✈ The NERASP data points to similar destinations without New York, Detroit, Fort Myers and Phoenix.
- ✈ The Primary Air Trade Area appears to differ slightly from the Catchment Area in demand for Philadelphia and Chicago destinations.
- ✈ The Chamber Survey largely validated the NERASP data, except for New York and Philadelphia.
- ✈ Understandably, leisure travelers want to fly to Florida.



3. Air Service Marketing Strategy

Given the regional competitive environment, ORH's most likely opportunities lie with new entrant, start-up, and/or charter airlines (cont'd).

- ✈ Since, Primary Air Trade Area residents are more likely to travel for leisure than the Catchment Area residents, leisure destinations should not be overlooked in air service marketing efforts.
- ✈ A preliminary list of target markets consists of Florida destinations and selected business cities.
- ✈ Most airport choice criteria were similar in both surveys and among both business and leisure travelers.
- ✈ For long-term success, Worcester's focus should be on cost-conscious, non-stop leisure travelers.
- ✈ Currently, Most Worcester residents use Boston-Logan or T.F. Green-Providence.
- ✈ Both surveys indicate some willingness of passengers to consider and potentially use ORH.



3. Air Service Marketing Strategy

Given the regional competitive environment, ORH's most likely opportunities lie with new entrant, start-up, and/or charter airlines (cont'd).

- ✈ Ample service exists from competing airports, however this does not preclude Worcester from attracting service.
- ✈ A new entrant, start-up and/or charter carrier is the most likely scheduled commercial service opportunity.
- ✈ The pool of successful new entrant, start-up and/or charter carriers is small.
- ✈ Besides marketing to existing airlines, ORH could “grow” a new one.
- ✈ Competition for low-cost carriers is fierce and often requires offering extremely lucrative incentives packages with no guarantees.
- ✈ IMG has identified several airlines for ORH to explore.
- ✈ ORH must apply all short-term efforts toward retaining Primary Airport* status to leverage federal capital improvement funds.

* A Primary Airport is defined by FAA as enplaning at least 10,000 passengers annually.



3. Air Service Marketing Strategy: Defining the Market

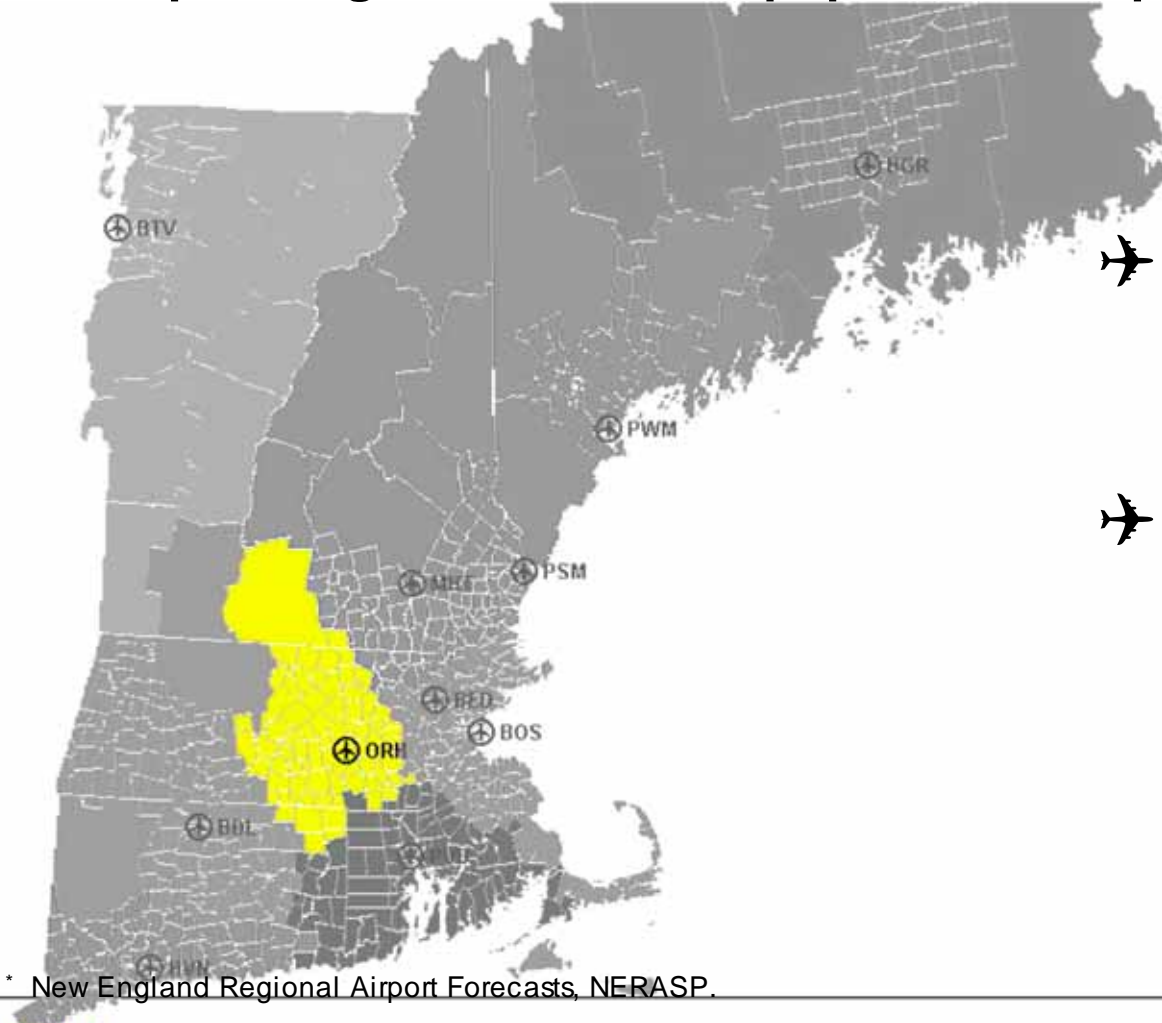
There are several ways to identify the size of ORH's market, based on geography.

- ✈ The NERASP defines a “Catchment Area” as all areas that are closer in drive time to ORH than any other commercial service airport.
- ✈ By taking the “Catchment Area” and selecting only those communities that are at least 20 minutes and 30 percent closer to ORH than any other commercial service airport, IMG has derived the “Primary Air Trade Area”
- ✈ The market characteristics are slightly different between the “Catchment Area” and the “Primary Air Trade Area” .
- ✈ The Primary Air Trade Area
 - ✈ Population is approximately 62% of the Catchment Area.
 - ✈ Has a lower overall propensity to fly and higher proportion of leisure travelers.
 - ✈ Contains approximately 51% of the passenger demand in the Broader Air Trade and Catchment Areas.
- ✈ Since there are multiple variables that influence the size and nature of demand for air transport within a market, both geographic areas can be used in defining the Worcester market depending on the use and purpose.



3. Air Service Marketing Strategy: Catchment Area

The Catchment Area yields a demand of approximately two million annual passengers, based on a population of approximately one million.



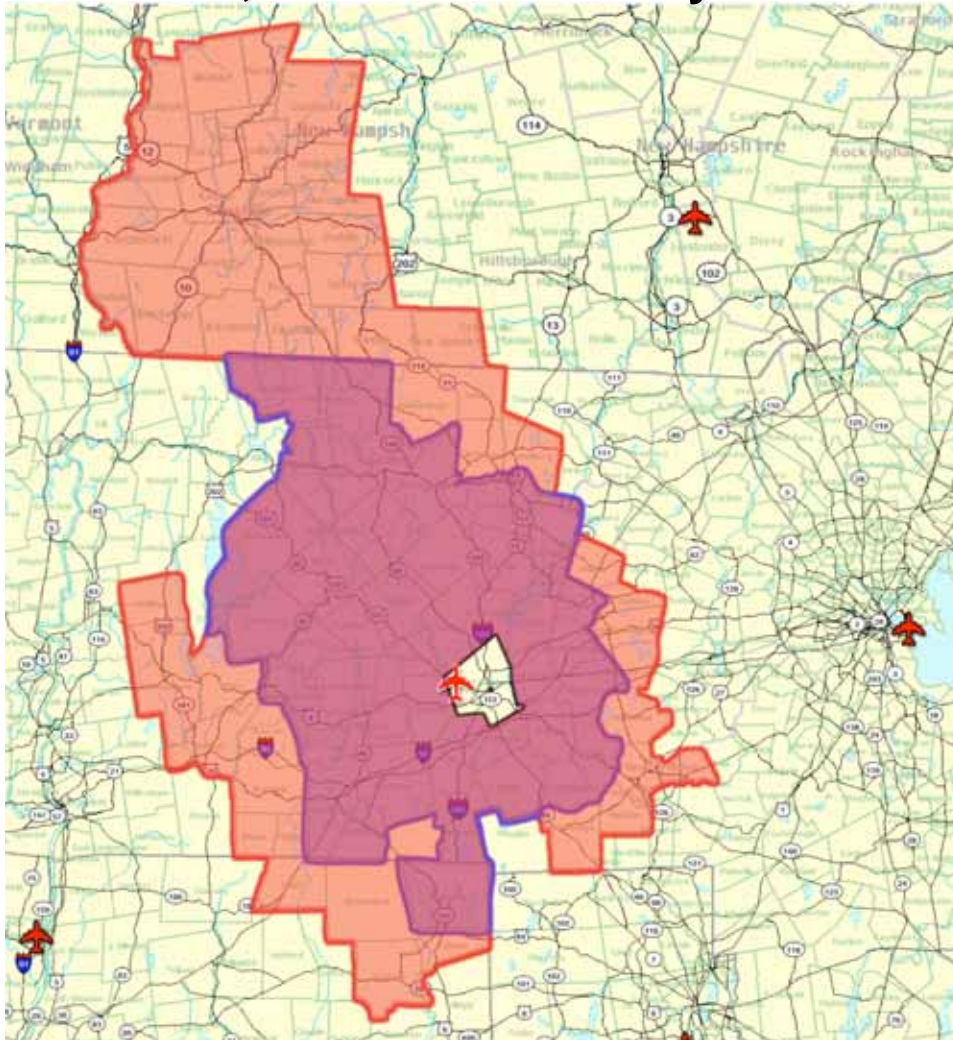
- ✈ The Master Plan currently uses the unconstrained Catchment Area to define the market.
- ✈ The NERASP has defined the Catchment as those areas that are closer to an airport facility (based on drive time).

* New England Regional Airport Forecasts, NERASP.



3. Air Service Marketing Strategy: Competition

However, ORH is essentially surrounded by competitors.



Based on New England Regional Air System Plan Drive Time Simulation Data; Louis Berger Group

✈ Convenient access and travel time to alternate airports becomes comparable to ORH, suggesting the following core market:

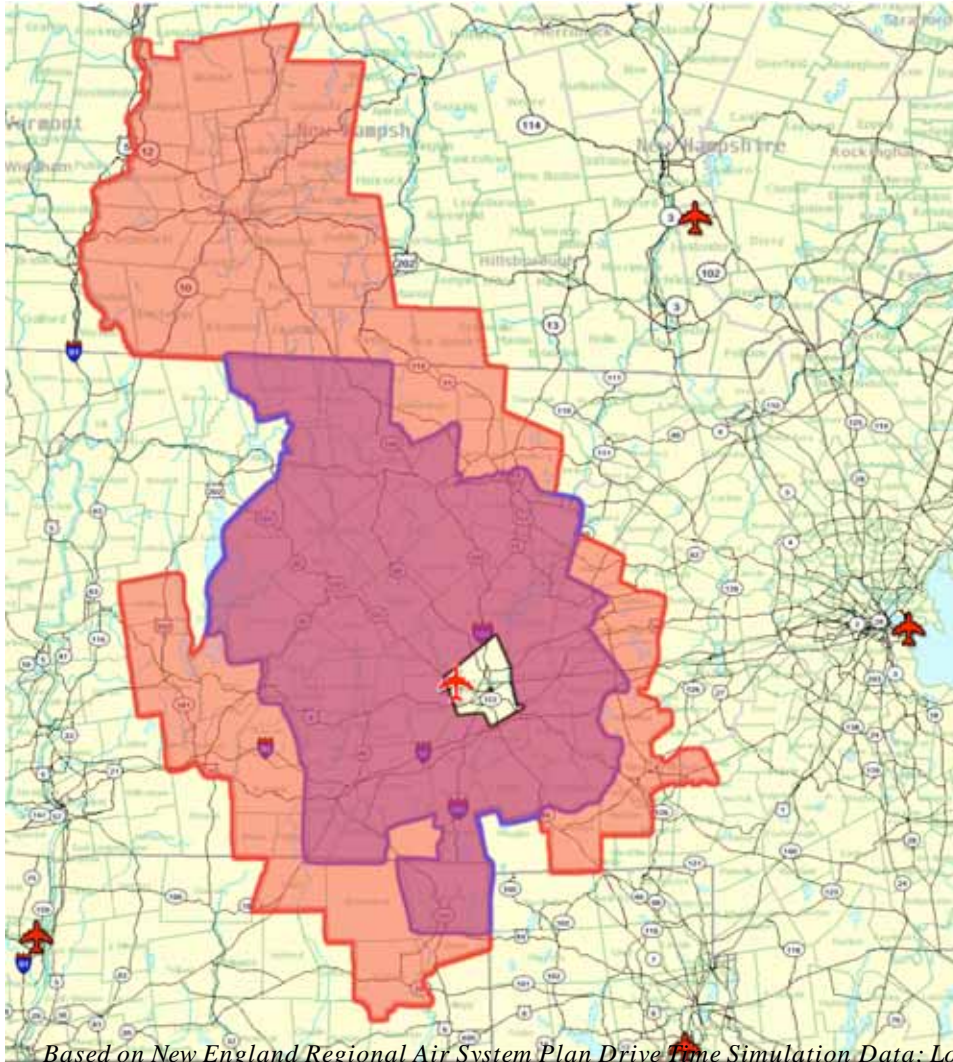
- ✈ West of I-495
- ✈ South and West of Fitchburg
- ✈ East of Brookfield and Sturbridge
- ✈ Communities along I-90.





3. Air Service Marketing Strategy: Worcester's Market

Two potential market areas were analyzed.



Based on New England Regional Air System Plan Drive Time Simulation Data; Louis Berger Group

✈ Catchment Area

The red/orange shaded area represents towns that are closer in driving time to ORH than any other commercial airport.

✈ Primary Air Trade Area

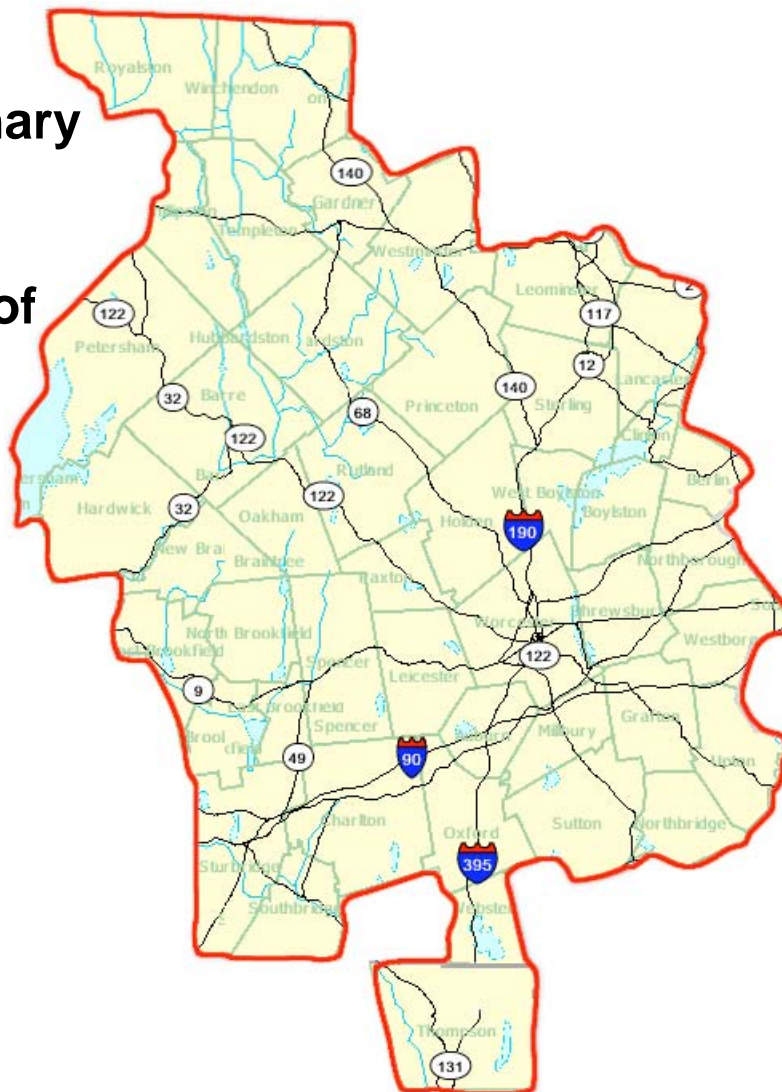
The purple shaded area represents towns that are at least **20 minutes and 30 percent** closer to ORH than any other commercial airport.





3. Air Service Marketing Strategy: Population Base

Worcester's Primary Air Trade area contains a population base of 623,530.



Geographic Area	Population Estimates July 1, 2003
Primary Air Trade Area	
Athol town	11,589
Auburn town	16,424
Barre town	5,353
Berlin town	2,663
Boylston town	4,162
Brookfield town	3,133
Charlton town	12,159
Clinton town	13,774
East Brookfield town	2,127
Gardner city	21,049
Grafton town	15,981
Hardwick town	2,668
Holden town	16,437
Hubbardston town	4,216
Lancaster town	6,618
Leicester town	10,851
Leominster city	42,000
Millbury town	13,304
New Braintree town	1,040
Northborough town	14,291
Northbridge town	13,705
North Brookfield town	4,819
Oakham town	1,828
Oxford town	13,760
Paxton town	4,532
Petersham town	1,245
Phillipston town	1,685
Princeton town	3,494
Royalston town	1,321
Rutland town	7,036
Shrewsbury town	33,091
Southbridge town	17,418
Spencer town	11,988
Sterling town	7,693
Sturbridge town	8,478
Sutton town	8,865
Templeton town	7,254
Upton town	6,117
Webster town	16,891
Westborough town	18,811
West Boylston town	7,649
West Brookfield town	3,900
Westminster town	7,261
Winchendon town	9,987
Worcester city	175,706
Thompson town, CT	9,157
TOTAL (population closer to ORH by 20 min/30% than any other commercial airport)	623,530

Based on drive time data from Louis Berger Group; New England Regional Aviation System Plan (NERASP).

Population Data Source: Population Division, U.S. Census Bureau



**Infrastructure
Management Group, Inc.**

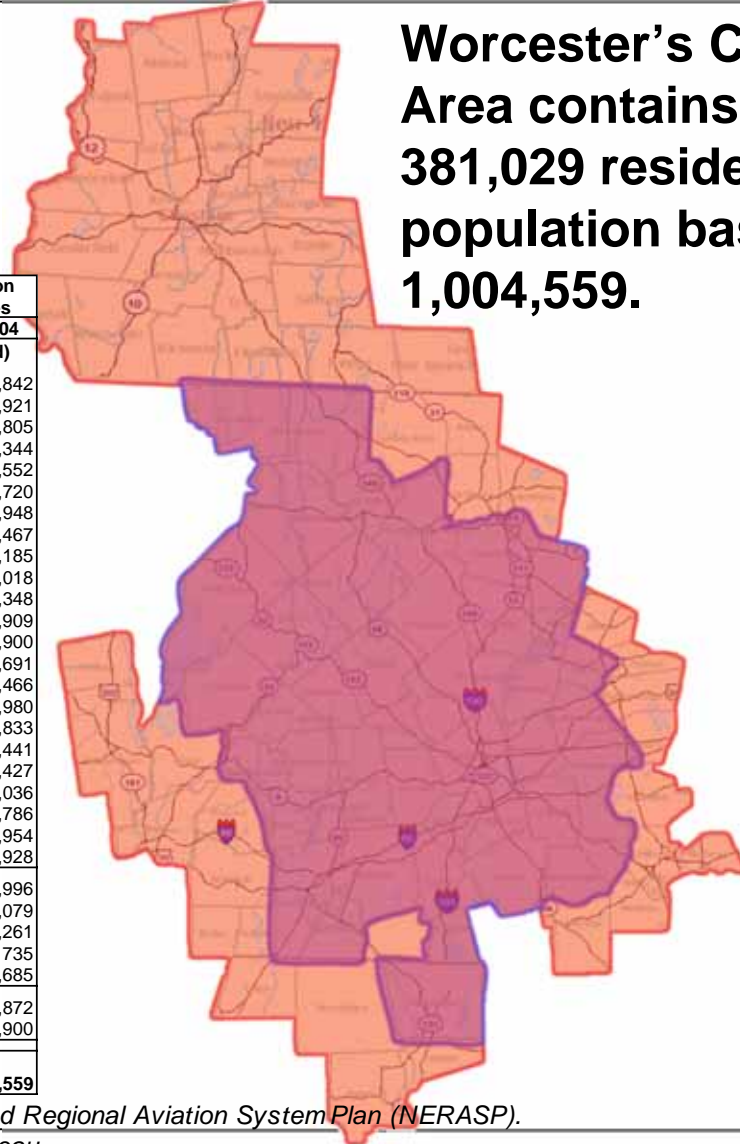
**City of Worcester
Worcester Regional Airport**

**November 2005
Page 45**



3. Air Service Marketing Strategy: Population Base

Geographic Area	Population Estimates July 1, 2003	Geographic Area	Population Estimates July 1, 2004
Primary Air Trade Area		Additional Broader Catchment (Constrained)	
Athol town	11,589	Ashburnham town	5,842
Auburn town	16,424	Ashby town	2,921
Barre town	5,353	Belchertown town	13,805
Berlin town	2,663	Bolton town	4,344
Boylston town	4,162	Brimfield town	3,552
Brookfield town	3,133	Dudley town	10,720
Charlton town	12,159	Fitchburg city	39,948
Clinton town	13,774	Holland town	2,467
East Brookfield town	2,127	Hopedale town	6,185
Gardner city	21,049	Hopkinton town	14,018
Grafton town	15,981	Hudson town	18,348
Hardwick town	2,668	Lunenburg town	9,909
Holden town	16,437	Medway town	12,900
Hubbardston town	4,216	Mendon town	5,691
Lancaster town	6,618	Milford town	27,466
Leicester town	10,851	Marlborough city	37,980
Leominster city	42,000	Palmer town	12,833
Millbury town	13,304	Pelham town	1,441
New Braintree town	1,040	Southborough town	9,427
Northborough town	14,291	Uxbridge town	12,036
Northbridge town	13,705	Wales town	1,786
North Brookfield town	4,819	Ware town	9,954
Oakham town	1,828	Warren town	4,928
Oxford town	13,760		
Paxton town	4,532	Pomfret town, CT	3,996
Petersham town	1,245	Putnam town, CT	9,079
Phillipston town	1,685	Thompson town	9,261
Princeton town	3,494	Union town, CT	735
Royalston town	1,321	Woodstock town, CT	7,685
Rutland town	7,036		
Shrewsbury town	33,091	Cheshire County, NH	76,872
Southbridge town	17,418	New Ipswich town, NH	4,900
Spencer town	11,988		
Sterling town	7,693		
Sturbridge town	8,478		
Sutton town	8,865		
Templeton town	7,254		
Upton town	6,117		
Webster town	16,891		
Westborough town	18,811		
West Boylston town	7,649		
West Brookfield town	3,900		
Westminster town	7,261		
Winchendon town	9,987		
Worcester city	175,706		
Thompson town, CT	9,157		
TOTAL (population closer to ORH by 20 min/30% than any other commercial airport)	623,530	TOTAL (closer to ORH than any other commercial airport)	1,004,559



Worcester's Catchment Area contains an additional 381,029 residents for a total population base of 1,004,559.

Based on drive time data from Louis Berger Group; New England Regional Aviation System Plan (NERASP).

Population Data Source: Population Division, U.S. Census Bureau



**Infrastructure
Management Group, Inc.**

**City of Worcester
Worcester Regional Airport**

November 2005
Page 46

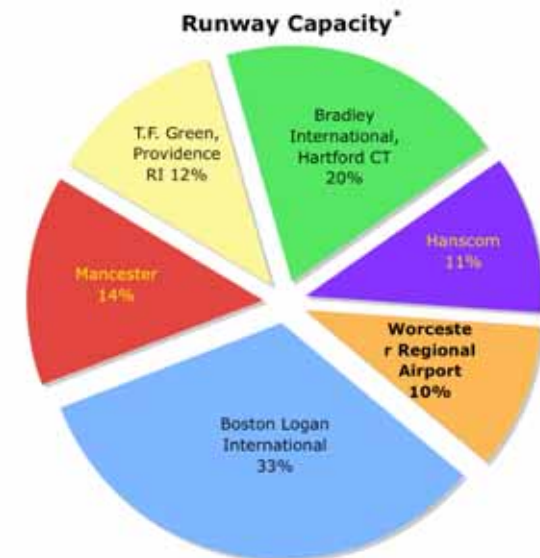


3. Air Service Marketing Strategy: Competition

For the time being, competing airports do not have major capacity constraints --including Boston-Logan.

- ✈ All of ORH's competitors have similar or superior airfield/runway facilities.
- ✈ All but Providence (PVD) and Hanscom (BED) offer considerably longer and wider runways.
- ✈ For the foreseeable future (the next five years) Boston-Logan (BOS) will not be diverting flight operations due to congestion.

AIRPORT	Runways	Length	Width
Boston Logan International	15R/33L	10,083	150
	15L/33R	2,557	100
	4R/22L	10,005	150
	4L/22R	7,861	150
	9/27	7,000	150
Manchester	17/35	9,250	150
	6/24	6,850	150
T.F. Green, Providence RI	5/23	7,166	150
	16/34	6,081	150
Bradley International, Hartford CT	6/24	9,510	200
	15/33	6,847	150
	1/19	5,145	100
Hanscom	11/29	7,001	150
	5/23	5,106	150
Worcester Regional Airport	11/29	7,000	150
	15/33	5,000	100



* Runway Capacity is based on a weighted average of (50%) length and (50%) total area.
Source: FAA Airport Diagrams



3. Air Service Marketing Strategy: Type of Service

Direct point-to-point service to top O&D markets will provide ORH with the greatest long-term probability for a successful commercial service airport.

- ✈ Minimum connecting times at major hubs are almost equal to driving time to alternate airport for nonstop service.
- ✈ Long-term success of (mainline) hub service is less likely:
 - ✈ ORH is surrounded by competing airports.
 - ✈ Even if a market is not served directly from a specific competing airport, it is likely served by one of the other airports (which is in close proximity and easily accessible).

Distance of Competing Airports			
AIRPORT	Distance (Road)	Drive Time From ORH*	Distance (air)
Hanscom (BED)	48	1:02	33
Boston Logan Int'l (BOS)	55	1:08	45
T.F. Green, Providence (PVD)	56	1:10	44
Bradley Int'l, Hartford (BDL)	73	1:23	47
Manchester (MHT)	75	1:27	51

Routes	OAG Minimum Connection Times
JFK	1 hour
ORD	50 minutes
ATL	55 minutes
PHL	40 minutes
LGA	45 minutes
IAD	45 minutes
CVG	40 minutes

* Drive Times are based on average non-peak traffic conditions.



3. Air Service Marketing Strategy: Data - New England Regional Aviation System Plan (NERASP)

The NERASP airport survey provides the most detailed and up-to-date information on the demand for destinations in ORH's market.

- ✈ The NERASP survey was conducted over a two week period in May 2004.
- ✈ The survey queried actual passengers at all 11 New England airports.
- ✈ IMG received the survey records from passengers that live within ORH's Catchment Area.
- ✈ The survey data indicates and identifies:
 - ✈ existing markets,
 - ✈ airport selection criteria
 - ✈ business and leisure travel profiles, and
 - ✈ historic airport use.



3. Air Service Marketing Strategy: Data - Worcester Regional Chamber of Commerce

An Internet-based customer/passenger profile survey conducted in the first quarter of 2005 by the Worcester Regional Chamber of Commerce helps validate the NERASP data.

- ✈ IMG worked with the Chamber and Airport to develop the survey instrument.
- ✈ A distribution network of regional communities, chambers, and economic development groups promoted a wide distribution within ORH's air trade area.
- ✈ The survey received an overwhelming response (over 1,600 total responses).
 - ✈ Initial projections assumed 200 business respondents.
 - ✈ Actual survey records indicate that over 740 business representatives completed the business travel section and over 1,500 individuals responded to the leisure travel portion of the survey.
- ✈ The survey provided information on:
 - ✈ desired destinations
 - ✈ business and leisure travel profiles,
 - ✈ airport selection criteria,
 - ✈ historic airport use



3. Air Service Marketing Strategy: Destinations - Historic

Ticket lift data from 1999 identified Orlando, Chicago, New York and Atlanta as the largest ORH market destinations.

Top 10 Worcester Markets 1999

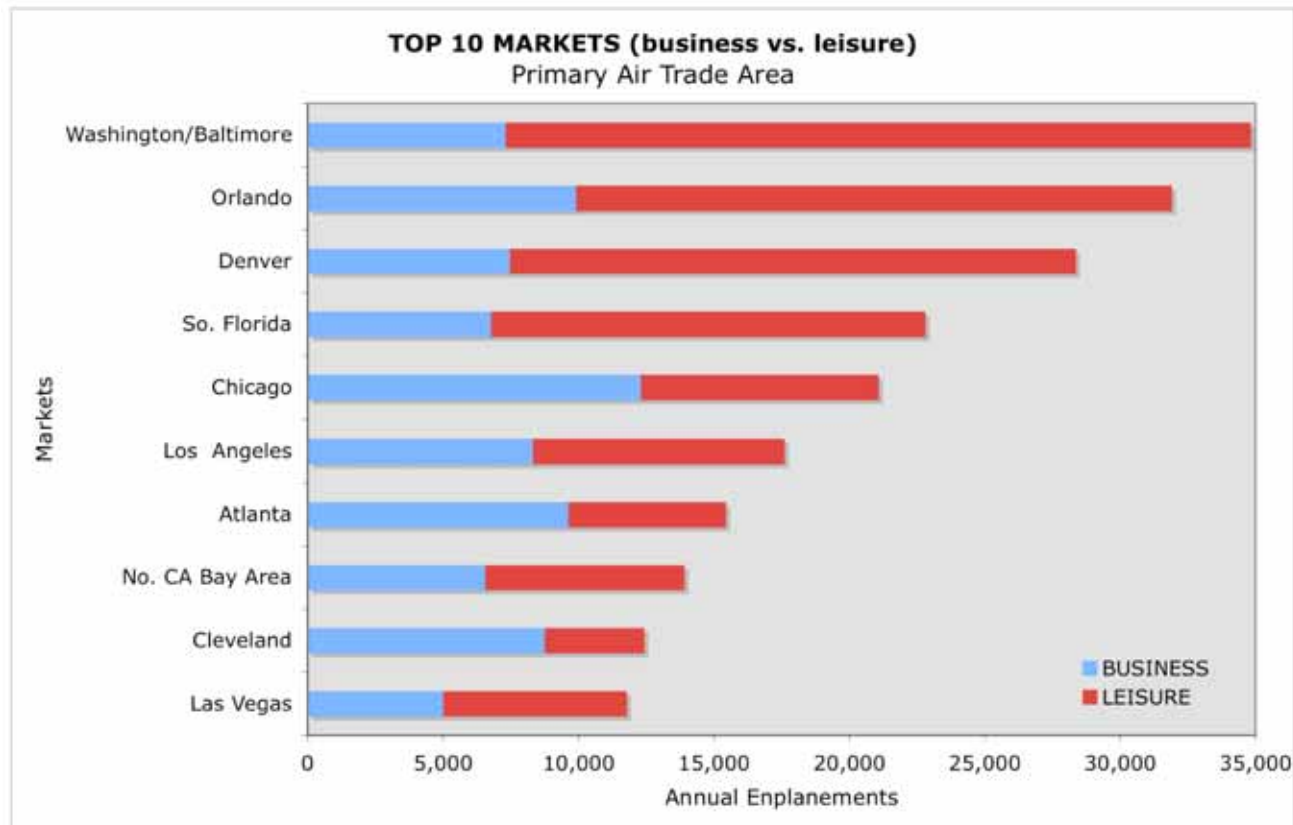
Rank	Market
1	Orlando
2	Chicago
3	New York
4	Atlanta
5	Detroit
6	Tampa
7	Washington, DC
8	Fort Lauderdale
9	Fort Myers
10	Phoenix

Source: ORH Small Community Air Service Grant application data; (original source: 1999 ticket lift)



3. Air Service Marketing Strategy: Destinations - NERASP

The NERASP data points to similar destinations without New York, Detroit, Fort Myers and Phoenix.

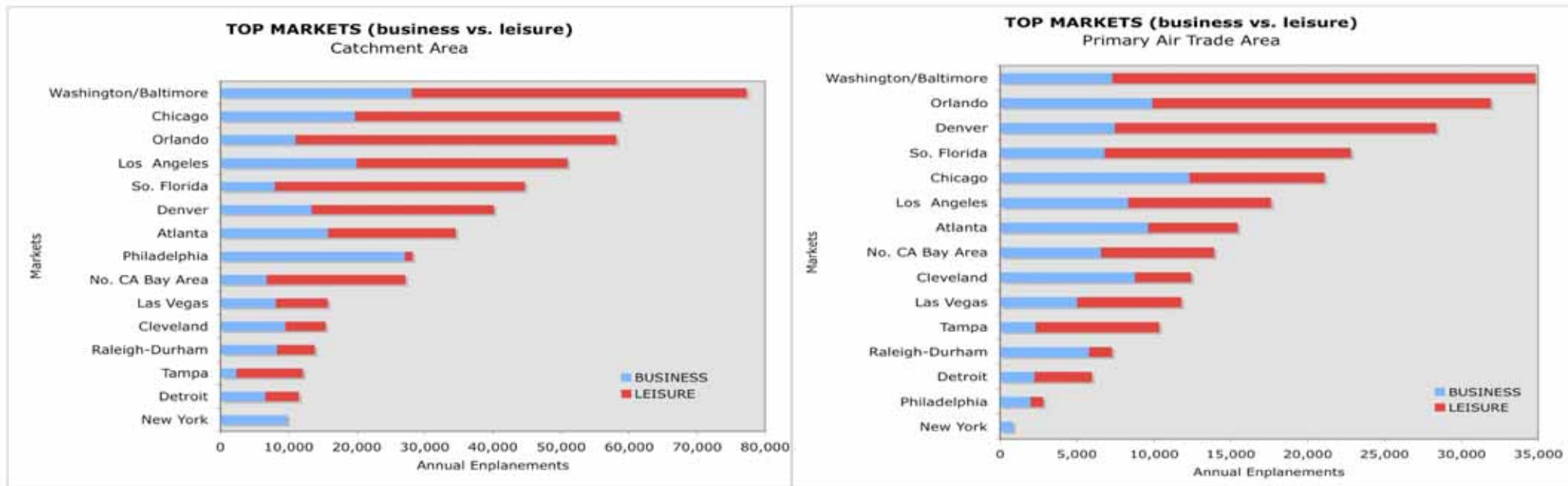


✈ Competition from rail and automobiles, and the post 9-11 security challenges have made New York a less competitive destination by air.



3. Air Service Marketing Strategy: Destinations - NERASP

The Primary Air Trade Area appears to differ most from the Catchment Area in demand for Philadelphia and Denver destinations.



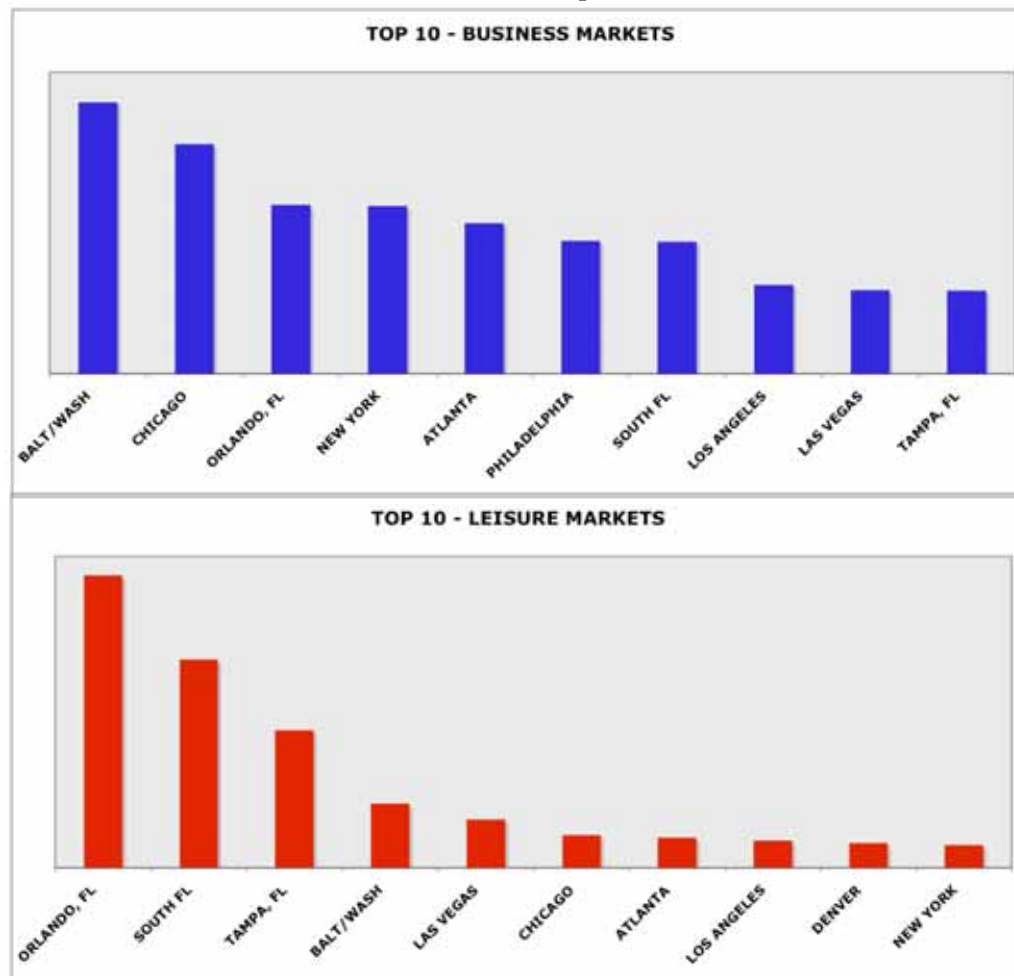
Source: New England Regional Aviation System Plan (NERASP)

- ✈ Philadelphia appears to have more demand from the outlying areas primarily from business travelers.
- ✈ Within the Primary Air Trade Area, the demand for the Denver market appears denser/more concentrated than in the Catchment Area.



3. Air Service Marketing Strategy: Destinations - Worcester Regional Chamber of Commerce

The Chamber Survey largely validated the NERASP data, except for New York and Philadelphia.

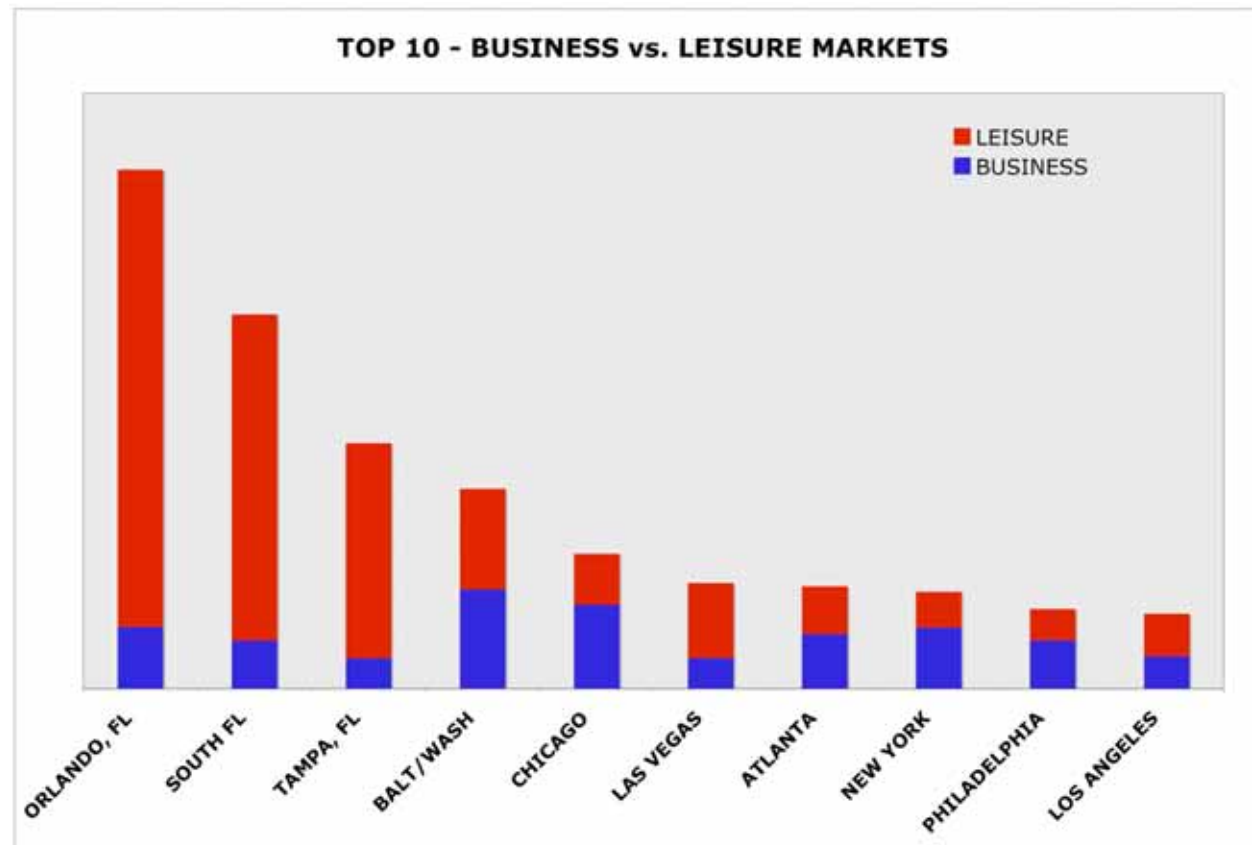


- ✈ A number of markets from the NERASP survey appear in the Chamber Survey.
- ✈ Key differences include:
 - ✈ High counts for New York and Philadelphia by business respondents, and
 - ✈ lower replies for Denver.



3. Air Service Marketing Strategy: Destinations - Worcester Regional Chamber of Commerce

Understandably, leisure travelers want to fly to Florida.

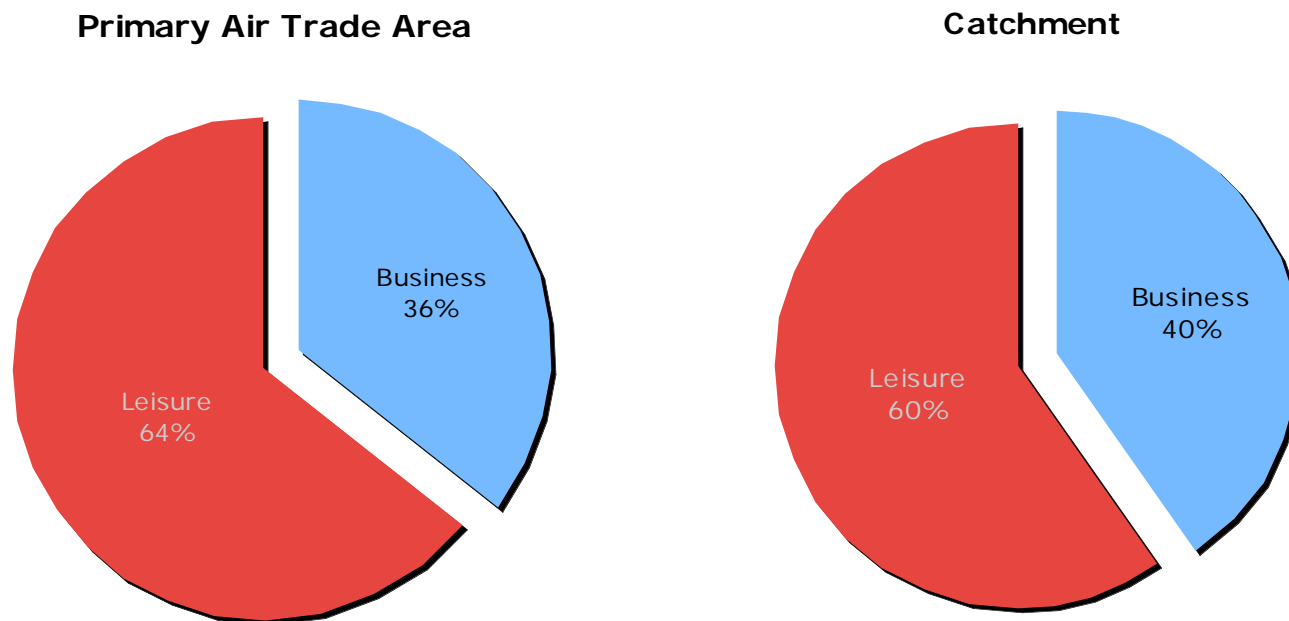


- ✈ Survey sample distribution closely represented actual business vs. leisure mix.
- ✈ Graph indicates that Florida was mentioned as the most common destination predominantly by leisure passengers.



3. Air Service Marketing Strategy: Travel Profile - Business vs. Leisure Passengers/Market

Since, Primary Air Trade Area residents are more likely to travel for leisure than the Broader Air Trade Area residents, leisure destinations should not be overlooked in air service marketing efforts.



Source: New England Regional Air System Plan, Airport Intercept Survey



3. Air Service Marketing Strategy: Destinations - NERASP

A preliminary list of target markets consists of Florida destinations and selected business cities.

**Top-10 Markets (2003): New England Regional Aviation System Plan (NERASP)
Airport Survey**

	Primary Air Trade Area	Percentage of Total Demand	Natural Catchment	Percentage of Total Demand
Total Annual Enplanements	528,843		1,038,923	
<u>Market Demand</u>				
Washington/Baltimore	34,830	6.6%	77,223	7.4%
Orlando	31,914	6.0%	58,112	5.6%
Denver	28,367	5.4%	40,157	3.9%
So. Florida	22,815	4.3%	44,721	4.3%
Chicago	21,080	4.0%	58,614	5.6%
Los Angeles	17,604	3.3%	50,986	4.9%
Atlanta	15,442	2.9%	34,542	3.3%
No. CA Bay Area	13,915	2.6%	27,119	2.6%
Cleveland	13,915	2.6%	15,431	1.5%
Las Vegas	11,776	2.2%	15,722	1.5%
Total	211,657	40.0%	422,626	40.7%

Source: New England Regional Aviation System Plan (NERASP)

- ✈ Service to Washington DC, Denver, South Florida and Tampa could also be viable.
- ✈ Further West Coast destinations may be too far to efficiently operate from ORH with certain aircraft.



3. Air Service Marketing Strategy: Destinations - NERASP

A preliminary list of target markets consists of Florida destinations and selected business cities (cont'd).

**Top-10 Markets (2003): New England Regional Aviation System Plan
(NERASP) Airport Survey**

	Weekly Demand		Daily Demand	
Weekly Demand	Primary Air Trade Area	Natural Catchment	Primary Air Trade Area	Natural Catchment
Washington/Baltimore	670	1,485	95	212
Orlando	614	1,118	87	159
Denver	546	772	78	110
So. Florida	439	860	63	123
Chicago	405	1,127	58	161
Los Angeles	339	981	48	140
Atlanta	297	664	42	95
No. CA Bay Area	268	522	38	74
Cleveland	268	297	38	42
Las Vegas	226	302	32	43

- ✈ Without factoring in market stimulation (from a low-cost carrier) Worcester has sufficient daily and weekly demand to support narrow body service to most of its top five or six destination markets.



3. Air Service Marketing Strategy: Airport Selection Criteria

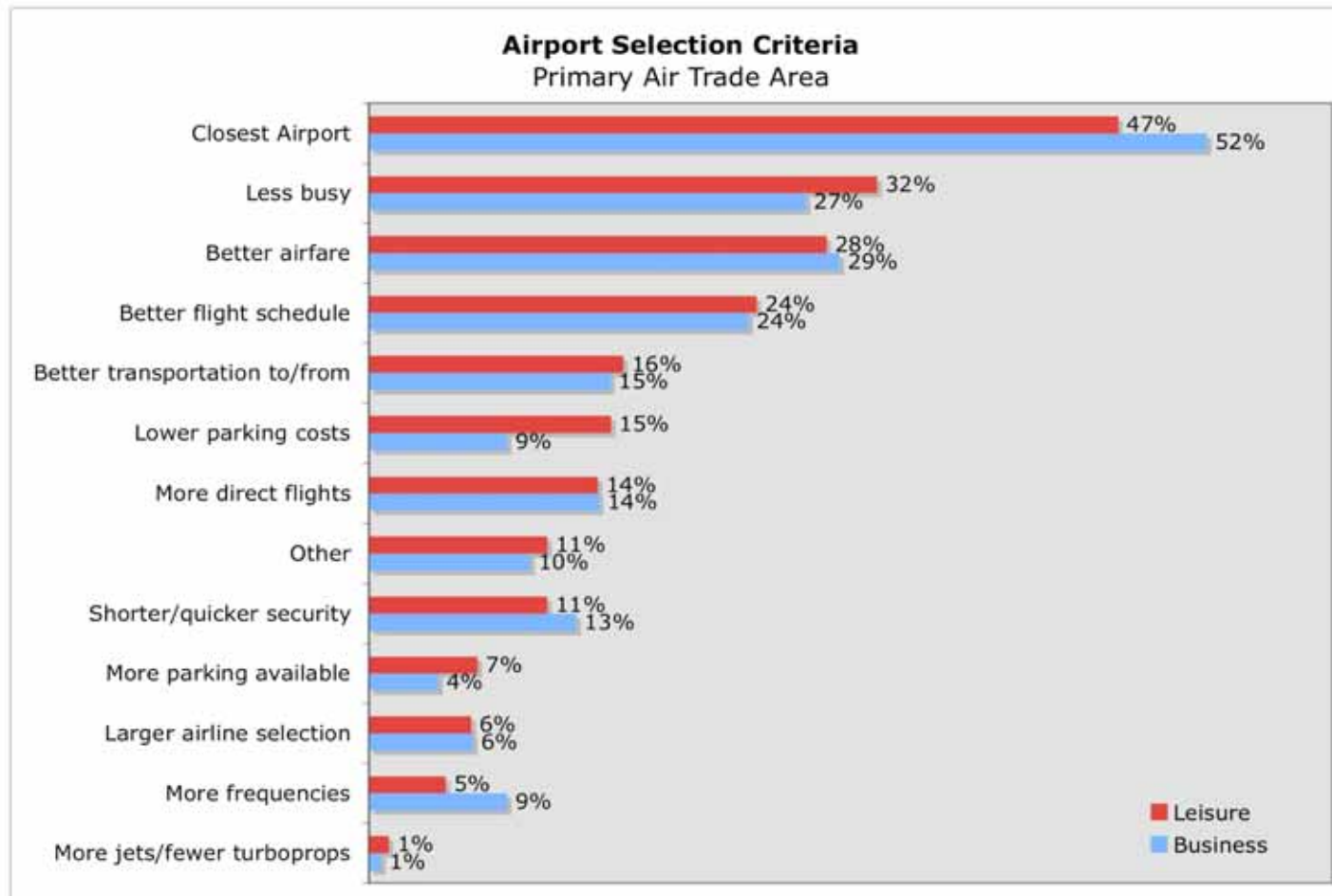
Most airport choice criteria were similar in both surveys and among both business and leisure travelers.

- ✈ Airport location, convenience, and ticket price are the main drivers of airport selection.
 - ✈ Location was more important to business travelers
 - ✈ Convenience was a key decision variables for leisure travelers
 - ✈ Ticket price was a critical selection variable for all respondents.
- ✈ Frequency and the availability of non-stop destinations were cited as considerably less important.
- ✈ Leisure travelers represent a considerably higher proportion of the market and therefore marketing efforts should represent an appropriate focus and proportion of overall effort.



3. Air Service Marketing Strategy: Airport Selection Criteria (NERASP)

Most airport choice criteria were similar in both surveys and among both business and leisure travelers (cont'd).

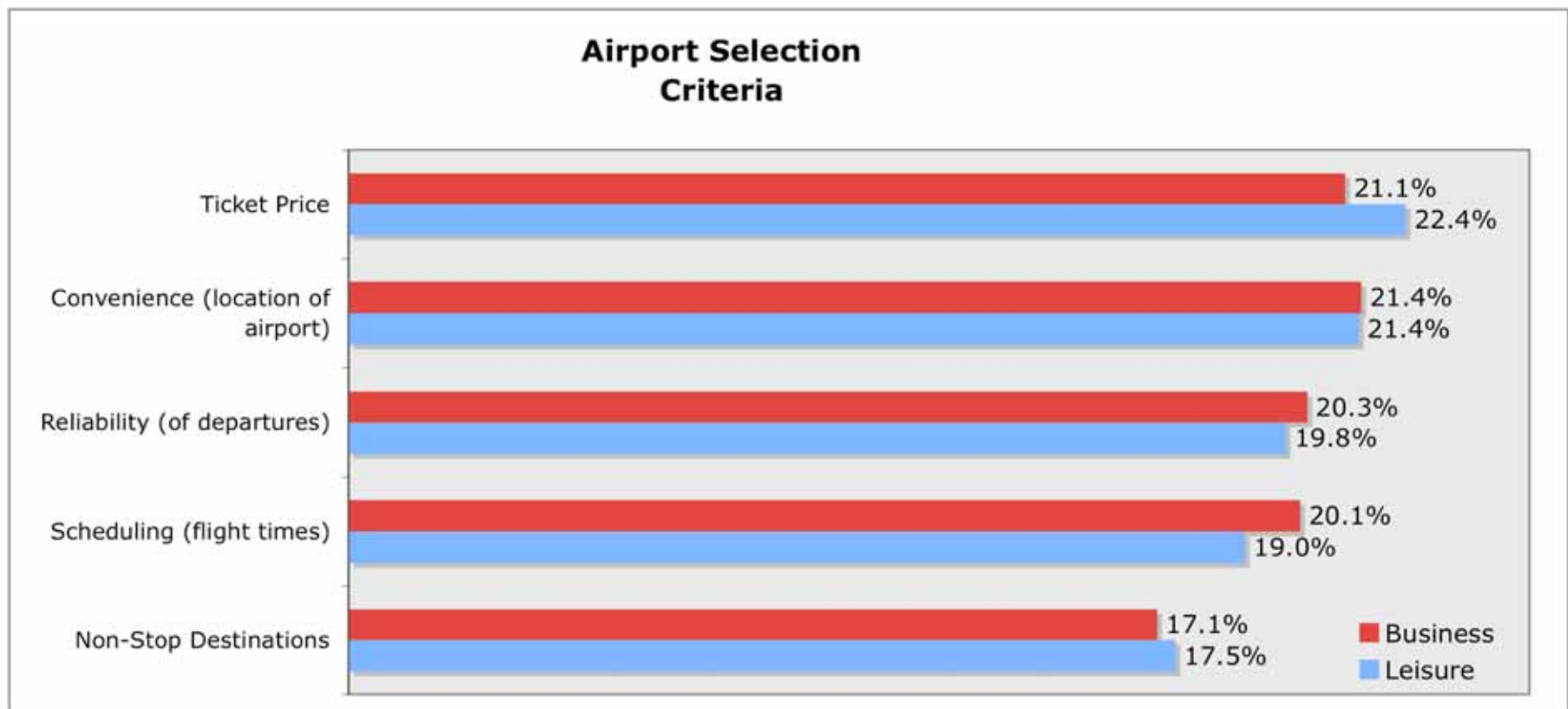


Source: New England Regional Air System Plan, Airport Intercept Survey



3. Air Service Marketing Strategy: Airport Selection Criteria (Chamber Survey)

Most airport choice criteria were similar in both surveys and among both business and leisure travelers (cont'd).



Source: Worcester Regional Chamber of Commerce



3. Air Service Marketing Strategy: Travel Profile

For long-term success, Worcester's focus should be on cost-conscious, non-stop leisure travelers.

- ✈ The Worcester market could support nonstop service to several of its top markets and weekly service to highly frequented leisure destinations.
- ✈ The right combination of service, schedule and price could stimulate additional demand.
- ✈ ORH will have to provide incentives for air carriers to introduce commercial passenger service, such as lower rates or added amenities that would increase operational efficiency and/or competitiveness not available at other area facilities.
- ✈ Air service will need to be well marketed and must offer value to passengers.
 - ✈ Convenience
 - ✈ Proximity
 - ✈ Free parking.



3. Air Service Marketing Strategy: Travel Profile

For long-term success, Worcester's focus should be on cost-conscious, non-stop leisure travelers (cont'd).

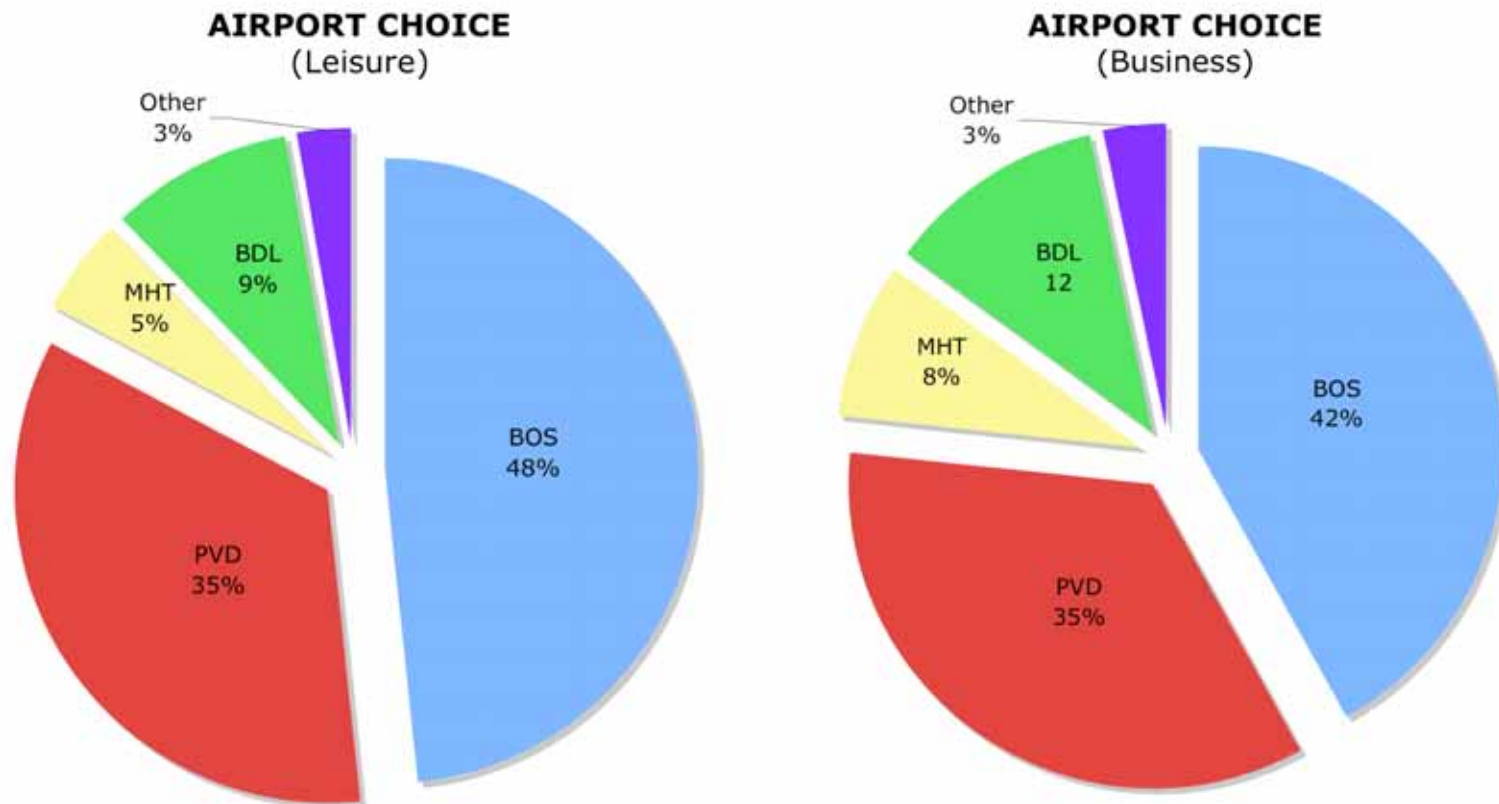
- ✈ Customer service from both the air carrier and airport must be a high priority to instill confidence in ORH.
- ✈ ORH should consider customer service performance incentives for air carriers, such as fee reductions/credits for achieving mutually agreed upon customer satisfaction goals/targets.
- ✈ Perception must be that ORH is a convenient and efficient airport.





3. Air Service Marketing Strategy: Airport Selection History

Currently, Most Worcester residents use Boston-Logan or T.F. Green-Providence.



Source: Worcester Regional Chamber of Commerce Internet Survey

✈ Worcester business travelers favor Bradley (BDL) and Manchester (MHT) over Boston-Logan (BOS), compared to leisure passengers.

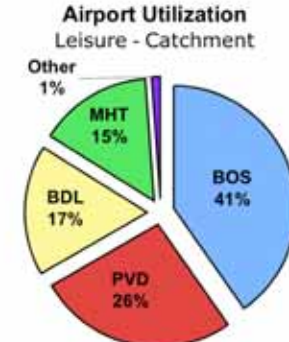
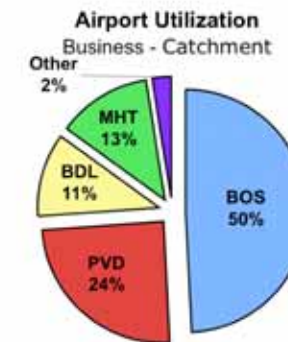
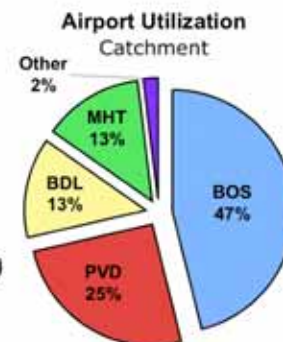
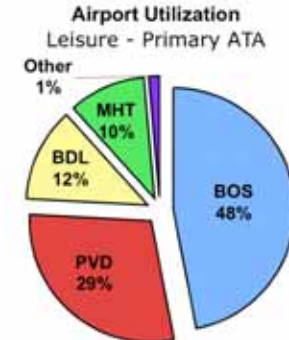
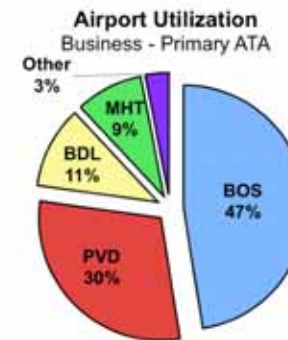
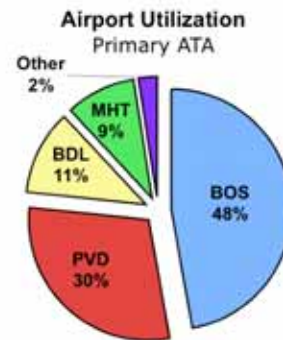


3. Air Service Marketing Strategy: Airport Selection History

Currently, Most Worcester residents use Boston-Logan or T.F. Green-Providence (cont'd).

Actual Airport Utilization

TOTAL	BOS	PVD	BDL	MHT	Other
Primary ATA	47%	29%	11%	9%	2%
Catchment	46%	25%	13%	13%	2%
BUSINESS					
Primary ATA	47%	30%	11%	9%	3%
Catchment	49%	24%	11%	13%	2%
LEISURE					
Primary ATA	47%	29%	12%	10%	1%
Catchment	40%	26%	17%	15%	1%



Source: New England Regional Aviation System Plan (NERASP)

- ✈ Unlike the passenger travel profile of the Catchment Area; the Primary Air Trade Area does not show much differentiation between business and leisure market airport utilization preferences.
- ✈ Within the Catchment Area leisure passengers are more inclined to use Manchester and Hartford and slightly less inclined to use Logan compared to business passengers.



3. Air Service Marketing Strategy: Other Information from Surveys

Both surveys indicate some willingness of passengers to consider and potentially use ORH.

✈ Worcester Regional Chamber of Commerce Internet Survey

- ✈ Of the survey respondents; 92 percent of business and 95 percent of leisure travelers/passengers would prefer to use ORH if comparable fares and service were available.
- ✈ On average survey respondents traveled 2.5 times per year.
- ✈ On average survey respondents departed for the airport:
 - 20 percent of the time from their office
 - 68 percent of the time from their home

✈ New England Regional Air System Plan (NERASP)

- ✈ Half (50 percent) of all passengers search fares and schedules at more than one New England airport when booking air travel.
- ✈ Average travel party size was 1.8 persons for all respondents.
- ✈ Average travel party for top 15 markets was 2.5 persons.
- ✈ Orlando and South Florida markets had average travel party of over 3.



3. Air Service Marketing Strategy: Competing Service

Ample service exists from competing airports, however this does not preclude Worcester from attracting service.

Weekly Flight Departures and Seats
(Top 25 Departure Destinations New England)

Weekly Flights and Seats
Top 10 ORH Markets

ID	Market	Weekly Frequencies					Weekly Seats
		BDL	BOS	MHT	PVD	TOTAL	
PHL	Philadelphia Intl Apt	81	138	89	93	401	53,970
LGA	New York La Guardia Apt	0	268	61	31	360	30,749
IAD	Washington Dulles Apt	87	119	63	62	331	20,898
BWI	Baltimore Washington Apt	58	104	75	83	320	38,188
ORD	Chicago O'Hare	75	149	28	62	314	40,289
DCA	Washington National Apt	33	213	19	33	298	25,207
ATL	Atlanta Hartsfield	70	131	21	42	264	41,615
EWR	New York Newark Apt	26	113	28	34	201	15,927
MCO	Orlando Intl Apt	43	85	28	36	192	30,974
CLT	Charlotte	45	67	33	40	185	27,284
DTW	Detroit Metropolitan	27	59	28	41	155	21,657
YYZ	Toronto Lester B Pearson Intl Apt	28	77	21	14	140	7,480
PIT	Pittsburgh Greater Pittsburgh Apt	33	37	27	32	129	8,804
RDU	Raleigh/Durham	28	80	0	20	128	5,486
CVG	Cincinnati Northern Kentucky Intl	27	49	28	21	125	14,732
TPA	Tampa Intl Apt	28	42	21	21	112	17,913
MDW	Chicago Midway Apt	21	32	27	28	108	15,852
FLL	Fort Lauderdale/Hollywood	22	68	0	15	105	17,333
CLE	Cleveland Hopkins Intl Apt	23	24	23	24	94	6,151
DFW	Dallas/Fort Worth Intl	20	64	0	7	91	11,924
MSP	Minneapolis Intl Apt	21	35	14	14	84	12,034
JFK	New York Kennedy Apt	0	80	0	0	80	3,555
CMH	Columbus Intl Apt	21	46	0	0	67	3,109
RSW	Fort Myers SW Florida Regional	14	42	0	7	63	9,485
MKE	Milwaukee General Mitchell Field	18	45	0	0	63	4,042

	Flights	Seats
Washington/Baltimore	949	84,293
Orlando	192	30,974
Denver	37	6,358
So. Florida	199	34,226
Chicago	422	56,141
Los Angeles	63	9,464
Atlanta	264	41,615
No. CA Bay Area	62	11,024
Cleveland	94	6,151
Las Vegas	42	6,279

Source: OAG Worldwide Schedules, June 2005.



Infrastructure
Management Group, Inc.

City of Worcester
Worcester Regional Airport

November 2005
Page 67



3. Air Service Marketing Strategy: Type of Airline

Boston Logan International (BOS)	Manchester (MHT)	Bradley International, Hartford (BDL)
International Aer Lingus AeroMexico Air Canada Air Canada Jazz Air France Air Jamaica Alitalia British Airways Cayman Airways Icelandair KLM Lufthansa SATA Swiss TACA Virgin Atlantic Airways Mainline American American Eagle Continental Delta Air Lines Delta Connection Delta Shuttle Northwest United United Express US Airways US Airways Shuttle US Airways Express Low Cost & Regionals AirTran Alaska Airlines America West ATA Airlines, Inc. Cape Air Independence Air JetBlue Airways Midwest Song (Delta)	International Air Canada Mainline Delta Air Lines Delta Connection Continental Continental Express Continental Connection Northwest United United Express US Airways US Airways Express Low Cost & Regionals Independence Air Southwest T.F. Green, Providence (PVD) <hr/> International Air Canada Mainline American Continental Continental Express Delta Air Lines Delta Connection Northwest Spirit United United Express US Airways US Airways Express Low Cost & Regionals Cape Air Independence Air Southwest	International Air Canada Jazz Mainline American American Eagle Continental Continental Express Delta Air Lines Northwest United United Express US Airways US Airways Express Low Cost & Regionals America West Independence Air Skyway Song (Delta) Southwest Hanscom Field (BED) Boston-Maine Worcester Regional (ORH)

A new entrant, start-up and/or charter carrier is the most likely scheduled commercial service opportunity.

- ✈ Air carriers already serving the market through other competing airports will require a compelling reason to relocate operations to ORH.
- ✈ Existing carriers are unlikely to relocate service to ORH because of:
 - ✈ High cost of relocation
 - ✈ Fear about future ORH cost escalations
 - ✈ Fear of customer reluctance to change
 - ✈ Risk/unknown



3. Air Service Marketing Strategy: Type of Airline

A new entrant, start-up and/or charter carrier is the most likely scheduled commercial service opportunity (cont'd).

✈ **Compelling Reasons for ORH Opportunity:**

- ✈ Dissatisfaction with existing location:
 - Price
 - Service
 - Congestion
 - Competitive dynamics.
- ✈ Lack of available facilities:
 - At Providence (PVD) by 2020*
 - At Hartford (BDL) by 2020*
 - At Logan (BOS) once delay levels reach demand management threshold**
 - Not likely in short-term or medium-term.
- ✈ Change in business dynamics, including major airline bankruptcy or the introduction and utilization of new equipment.

* FAA Capacity Needs in the National Airspace System An Analysis of Airport and Metropolitan Demand and Operational Capacity in the Future; June 2004

** Based on demand management proposal currently under review by FAA during comment period.



3. Air Service Marketing Strategy: Type of Airline

The pool of successful new entrant, start-up and/or charter carriers is small.

- ✈ Start-up: A newly formed air transport company. They are inherently risky and do not last very long once projections fail to materialize (i.e. Pan Am, Independence, etc.).
- ✈ New Entrants: Airlines not already serving the region (i.e. Frontier, Hooters, Allegiant). Most mainline carriers already have a regional presence.
- ✈ Charter: Unscheduled air transport usually sold through an intermediary, such as a tour operator (i.e. USA 3000). In the past, some charters have had service issues.
- ✈ Charter Start-up: There have been several charter airlines that have attempted to become scheduled air carriers. Similar in risk to start-ups:
 - ✈ ATA (currently in chapter 7 bankruptcy liquidation)
 - ✈ USA 3000
 - ✈ TransMeridian.



3. Air Service Marketing Strategy: Type of Airline

Besides marketing to existing airlines, ORH could “grow” a new one.

- ✈ How to get a successful low-cost-carrier (LCC) carrier if all of the existing LCCs have turned you down?
- ✈ Grow one; get a start-up LCC to base/headquarter at an airport:
 - ✈ JFK (JetBlue)
 - ✈ IAD (Independence)
 - ✈ SFO (VirginUSA).
- ✈ Start-up LCCs are usually costly and risky.
 - ✈ Most successful LCC start-ups have required tens or hundreds of millions of dollars in start-up capital.
 - ✈ Like any start-up there is a higher probability of failure than success.
 - ✈ Too many failures impact public perception and future LCCs/start-ups' appetite to attempt to operate at an airport.



3. Air Service Marketing Strategy: Type of Airline

Competition for low-cost carriers is fierce and often requires offering extremely lucrative incentives packages with no guarantees.

✈ Competition for LCCs is intense:

- ✈ LCCs are a commodity for which all airports compete aggressively.
- ✈ Larger airports, as well as municipal and state governments often offer extravagant (multi-million dollar) incentive packages and can provide a higher level of service to attract LCCs.
- ✈ LCCs that will provide ample economic development command bargaining power and use it.

✈ Newer, less-established carriers are often inexperienced and have customer service difficulties during the initial operational learning period.

- ✈ There have been attempts at smaller scale start-up operations at airports similar in size to ORH, however none have grown into successful and viable operations.
- ✈ There have been many failures along the way.

✈ Not all LCCs can be swayed by guarantees and incentives.

- ✈ JetBlue and Independence Airlines do not participate in travel banks and guarantee programs.



3. Air Service Marketing Strategy: Type of Airline

Competition for low-cost carriers is fierce and often requires offering extremely lucrative incentives packages with no guarantees (cont'd).

✈ Examples of what it takes to get a successful LCC to locate at an airport:

✈ Virgin USA

- San Francisco & California providing economic incentives of over \$15 million to convince Virgin to select SFO as the base of operations.
- City of New York providing over \$11 million in incentives to locate business headquarters in New York.

✈ Roanoke Regional Airport (ROA)

- Considering earmarking \$5 million per year for three years to attempt to attract a LCC.

✈ Wichita Mid-Continent Airport (ICT)

- \$2.5 million revenue guaranteeing to AirTran.
- Have been subsidizing AirTran's losses for over a year.

✈ Sarasota-Bradenton International Airport (SRQ)

- \$2 million revenue guarantee to AirTran
- \$820,000 in waived fees
- Over \$520,000 in marketing support
- Interested in a Boston route - should explore possibilities of synergies between Sarasota and other secondary airport market.



3. Air Service Marketing Strategy: Type of Airline

Possible Carriers for ORH to explore:



FRONTIER AIRLINES



Sun Country Airlines





3. Air Service Marketing Strategy: Short- and Medium-term Goals

ORH must apply all short-term efforts toward retaining Primary Airport status to leverage federal capital improvement funds.

- ✈ Primary Airport status is defined by the Federal Aviation Administration (FAA) for the distribution of Airport Improvement Program (AIP) funding.
- ✈ A Primary Airport is defined as serving no less than 10,000 enplanements annually.
- ✈ A minimum level of \$1 million in AIP capital funding is allocated to each Primary Airport every year under the current federal appropriation.*
- ✈ Capital funds would be employed to upgrade ORH's facilities and prevent the Airport from falling further behind the competition.
- ✈ Any air service that is likely to qualify ORH for Primary Airport status is desirable.
- ✈ Worcester will lose Primary Airport Status in 2005.
- ✈ If Primary Airport status is not retained, financial realities will likely warrant scaling back the enterprise; current operating agreements with Massport and the Department of Transportation (DOT) end in fiscal year 2008.

** Currently, the Administration is proposing appropriation levels for the 2006 federal budget that would reduce this amount. However, other legislation is also pending to retain current funding levels.



3. Air Service Marketing Strategy: Implementation

Worcester's air service strategic marketing plan needs to be multi-faceted.

- ✈ Worcester will need to create a compelling marketing proposition for airlines to introduce service.
- ✈ Worcester should compile all available data and supplement it as needed.
- ✈ Core promotional information and marketing material should be developed.
- ✈ A tactical marketing plan should be developed, coordinated, and effectively managed.
- ✈ Worcester needs to understand airlines' needs, competitive dynamics, potential opportunities, and monitor industry developments.
- ✈ A regional coalition should be formed to capitalize on joint efforts and strengths.
- ✈ ORH, the City and coalition members need to promote, promote, promote!



3. Air Service Marketing Strategy: Implementation

Worcester will need to create a compelling marketing proposition for airlines to introduce service.

- ✈ Provide and demonstrate adequate market demand.
- ✈ Deliver a clear and consistent message about the Worcester market and its characteristics.
- ✈ Agree to, and deliver the operational and capacity requirements to match airlines' service patterns and plans.
 - ✈ TSA equipment and staffing
 - ✈ Gate availability
 - ✈ Ground handling equipment and/or services
- ✈ Deliver a competitive and stable cost structure.



3. Air Service Marketing Strategy: Implementation

Worcester will need to create a compelling marketing proposition for airlines to introduce service (cont'd).

- ✈ Reduce risks as much as possible:
 - ✈ Financial - reduced rates for new service, cost per enplanement cap, reduce start-up costs, revenue guarantee, travel bank, etc.
 - ✈ Operational - Adequate staffing, provide for carriers' facility requirements and equipment, etc.
 - ✈ Marketing - Assist in promoting ORH to community, offer services and incentives to attract passengers (i.e. free parking), highlight convenience.
- ✈ Provide more value than competing airports. Although ORH may not be able to offer everything that is available at competing airports, offering value will attract an airline that is a good fit for ORH:
 - ✈ Lower cost
 - ✈ Proximity
 - ✈ Increased convenience/reduced hassle factor
 - ✈ Expansion capacity.



3. Air Service Marketing Strategy: Implementation

Worcester should compile all available data and supplement it as needed.

- ✈ Leverage existing demographic information from local and regional organizations:
 - ✈ Regional Chamber of Commerce
 - ✈ Comprehensive Economic Development Strategy
 - ✈ Business Development Corporation
 - ✈ Municipal Research Bureau
 - ✈ New England Regional Aviation System Plan (NERASP)
 - ✈ Massport.
- ✈ Develop passenger profiles and identify airlines' needs, preferences, and priorities.
- ✈ Establish Worcester's competitive position:
 - ✈ Information and data on competing airports in the region.
 - Monitor press releases
 - Download all Official Statements and Annual Reports
 - Become acquainted with station managers and other airline representatives
 - ✈ Understand airlines' experiences at competing airports.



3. Air Service Marketing Strategy: Implementation

A tactical marketing plan should be developed, coordinated, and effectively managed.

- ✈ Identify events and conferences to market at and develop schedule based on Worcester's air service marketing budget.
 - ✈ Network
 - ✈ Jump Start.
- ✈ Develop a schedule for continued follow-up with industry and airline sources.
- ✈ Coordinate efforts and information between all parties:
 - ✈ City
 - ✈ Airport Commission
 - ✈ Consultants
 - ✈ Public advocacy groups
 - ✈ Coalition partners
 - ✈ Local economic development/business groups



3. Air Service Marketing Strategy: Implementation

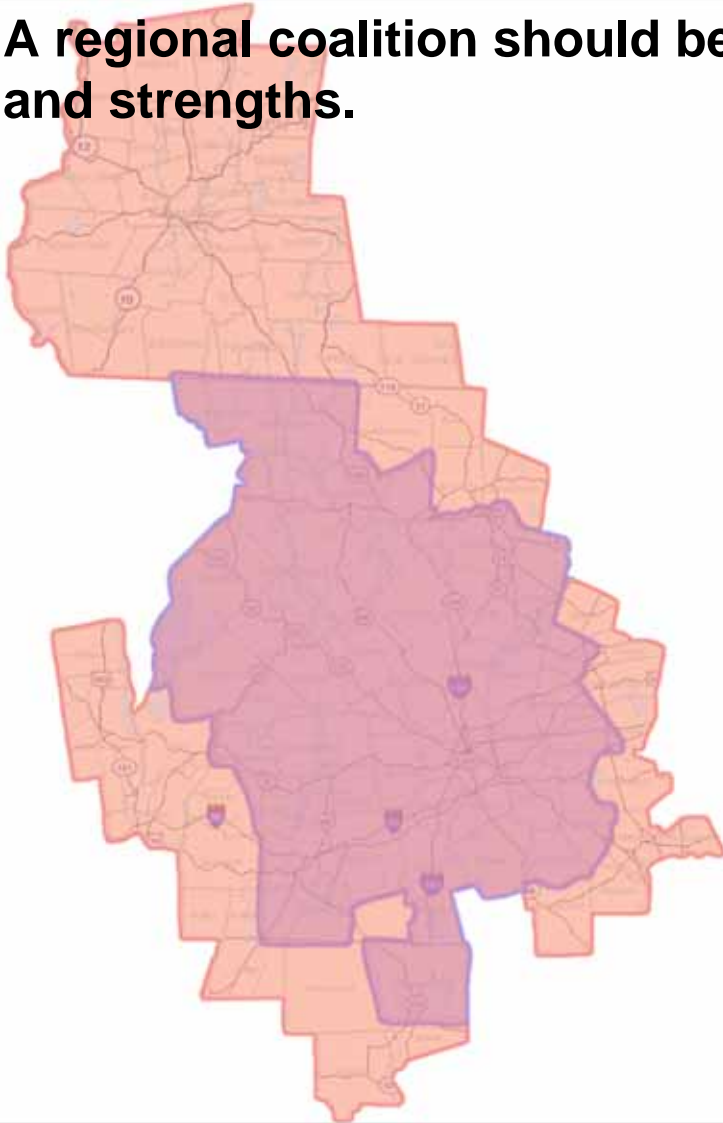
Worcester needs to understand airlines' needs, competitive dynamics, potential opportunities, and monitor industry developments.

- ✈ Identify current and potential future target airlines that could derive value from operating at ORH.
- ✈ Consider strategic positioning of airlines as competitive dynamics change.
 - ✈ Independence Airlines liquidates - Capacity between New England and Washington decreases dramatically allowing for new entrants and expansion of existing service. Opportunity for ORH-IAD service increases. JetBlue expansion BOS-IAD possible.
 - ✈ US Airways liquidates - Capacity between New England and Washington decreases dramatically allowing for new entrants and expansion of existing service. Opportunity at Washington National through slot allocations, via political persuasion. New entrants and small communities are favored for such set asides.
- ✈ Construct route analyses and review by target airline.



3. Air Service Marketing Strategy: Implementation

A regional coalition should be formed to capitalize on joint efforts and strengths.

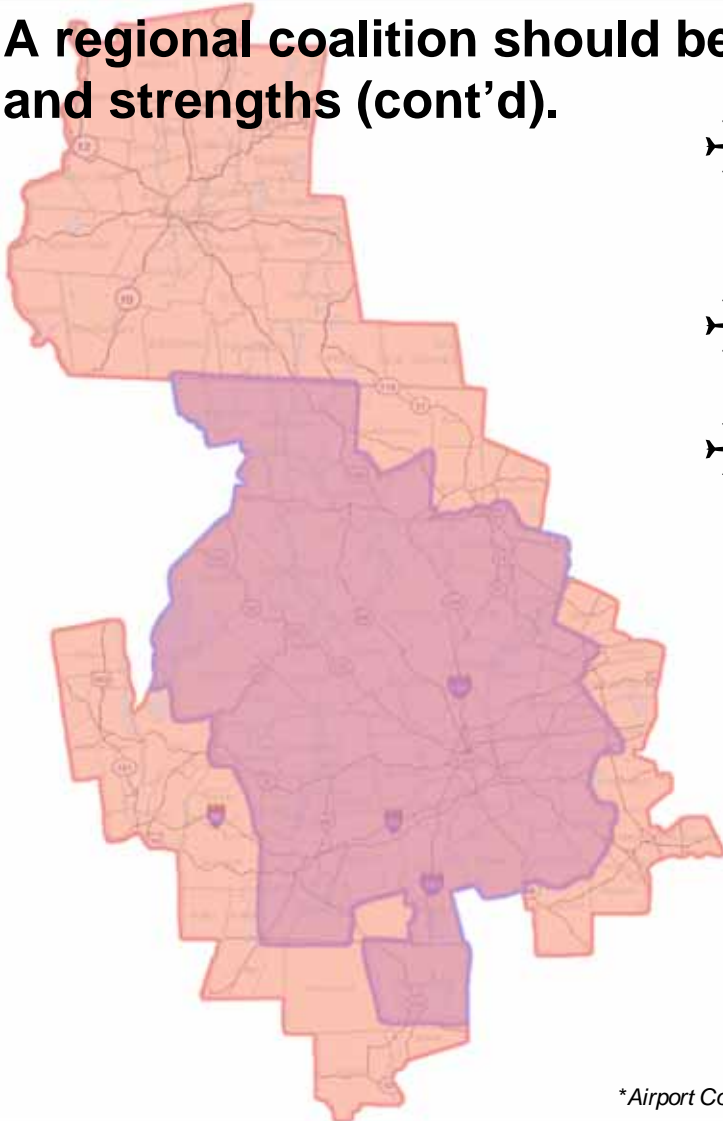


- ✈ Define possible benefits and value proposition between Worcester and other air trade area/catchment area communities.
- ✈ Provide equitable risk and profit sharing/economic benefits among the regional coalition members.
- ✈ Understand, develop report/proposal, and market to outlying communities that may not be aware of ORH and benefits (economic development, shorter drive time, easy access, free parking, etc.).
- ✈ The strong response to the Worcester Regional Chamber of Commerce Airport/Air Travel Survey shows the strength and benefits that can be accomplished by working with the regional partners.



3. Air Service Marketing Strategy: Implementation

A regional coalition should be formed to capitalize on joint efforts and strengths (cont'd).



- ✈ Leverage coalition to acquire greater support and additional funding (local, MAC, FAA/DOT, etc.).
- ✈ Provide value proposition and sense of ownership to attract coalition members.
- ✈ ORH may possibly want to consider changing airport name to better reflect the coalition members and proximity to Boston.*
 - ✈ Worcester-Boston Regional Airport
 - ✈ Boston Metro-Worcester Airport
 - ✈ Central Massachusetts Airport
 - ✈ Greater New England Airport

**Airport Commission could select an appropriate name and forward their recommendation to the City leadership.*



3. Air Service Marketing Strategy: Implementation

ORH, the City and coalition members need to promote, promote, promote!

- ✈ Pound the pavement and promote Worcester Regional Airport as the best value for an airline to serve Central New England.
- ✈ Highlight Small Community Air Service grant assistance toward new service marketing and promotion.
- ✈ Attend industry events; seminars and conferences.
- ✈ Promote a unified message through marketing materials:
 - ✈ Website
 - ✈ Brochure(s)
 - ✈ Travel agents/industry
 - ✈ Direct mail and e-mail campaign.
- ✈ Track all efforts and incorporate feedback into future marketing plans and approach.
- ✈ As contacts and relationships at airlines are developed, a plan to follow up and maintain connections and exchange information should assist in on-going efforts.



4. Economic Impact

Even if ORH requires Massport/general fund support for the foreseeable future, ORH still generates economic benefits for the City, County and State.

- ✈ In 1998 Massachusetts Aeronautics Commission conducted an Economic Impact Study of MA Airports.
- ✈ Assuming approximately 40,000 enplanements, ORH created 275 jobs.

Worcester County Impacts

	Direct Impacts	Induced Impact	Total impacts
<u>Output/Sales</u>			
On-Airport	\$15,417,645	\$7,695,599	\$23,113,244
Off-Airport	3,969,953	\$2,418,309	6,388,262
Total	\$19,387,598	\$10,113,908	\$29,501,506
<u>Payroll/Wages</u>			
On-Airport	\$3,738,594	\$1,248,309	\$4,986,903
Off-Airport	1,194,673	\$485,384	1,680,057
Total	\$4,933,267	\$1,733,693	\$6,666,960
<u>Employment/Jobs</u>			
On-Airport	105	76	181
Off-Airport	71	23	94
Total	176	99	275



5. Recommendation for the Future: Next Steps

The next steps for the City of Worcester will be:

- ✈ Immediately begin discussions with Massport to partner with Worcester through a long-term operation/management contract or acquisition/ownership and advance their strategic goals and policy of achieving greater regionalization in New England.
 - ✈ Build regional coalition and frame ORH as a regional/state asset.
 - ✈ Possibly consider changing the name of “Worcester Regional Airport” to better reflect the regional marketing strategy and proximity to Boston. This will then be used in the marketing and recruitment to airlines.
 - ✈ Continue to work with the New England Regional Aviation System Plan (NERASP) study group and the master plan team.
 - ✈ Attract commercial air service:
 - ✈ Implement marketing strategy
 - ✈ Promote the Small Community Air Service Marketing grant package to airlines.
 - ✈ Promote the Airport to all potential user groups and geographies through the regional coalition and the proposed marketing plan.
 - ✈ If a partnership is not established and/or primary airport status is not retained by FY2008, the City should scale back ORH operation from a Part 139 Certified commercial airport to only provide General Aviation (GA) services.
-

Appendix A: Net Present Value (NPV) Scenario Comparison Differential Matrixes

The following matrixes were designed to accurately define the differentials between various operating and aviation activity scenarios. When modeling financial projections it is rare to foresee how various price levels will actually evolve. However, the dynamics and ratios among airport costs and revenues is more certain and less likely to change. The dynamics among airport financial parameters are only likely to change as a result of significant regulation or industry altering shocks such as the events of September 11, 2001. Barring any such unforeseeable developments the ratios and dynamics among airport financial variables will most likely remain constant or within relative proportion to what has recently been experienced throughout the industry and at ORH, when commercial service existed.

The following Net Present Value (NPV) Scenario Comparison Differential Matrixes (Matrixes) are designed to act in a way similar to a frequent flyer mileage calculator. There are four matrixes as part of this appendix: 5-year, 10-year, 15-year, and 20-year Net Present Value (NPV) summaries. Each matrix summarizes the differences between the various scenarios.

For example, to locate/identify the difference in the financial impact from one scenario to another:

1. Locate the sheet containing the matrix for the time horizon that is being compared *10-year*
2. Locate the scenario in the first column that is meant for comparison. It is important to select the correct combination of operating scenario and activity scenario.

EXTENDED RETURN OF SERVICE – MASSPORT OPERATED (50% CONTRIBUTION)

3. Follow the row of that scenario until the column of the scenario that it is being compared against.

EXTENDED RETURN OF SERVICE – CITY OPERATED (CERT. 139)

4. The cell where the two scenarios intersect provides the difference between the two scenarios (the difference in cost of the scenario in the first row of scenarios (listed horizontally across the top) minus the scenario in the first column (vertically listed top to bottom).

In the first 10 years, the NPV the impact of cost differences to the financial bottom line under the Extended Return of Service scenario of an outcome where Massport operates ORH at a 50% level of financial support would be a savings of **\$5,451,778** over an outcome of the City operating the airport at a 139-certificated level.

10-YEAR NPV THROUGH 2015

		STATUS QUO			LIMITED COMMERCIAL ACTIVITY			EXTENDED RETURN OF SERVICE
	CITY OPERATED (GA)	CITY OPERATED (CERT. 139)	MASSPORT OPERATED (67% CONTRIBUTION)	MASSPORT OPERATED (50% CONTRIBUTION)	CITY OPERATED (CERT. 139)	MASSPORT OPERATED (67% CONTRIBUTION)	MASSPORT OPERATED (50% CONTRIBUTION)	CITY OPERATED (CERT. 139)
CITY OPERATED (GA)	\$ -	\$ 5,681,963	\$ (3,252,463)	\$ (494,638)	\$ 4,276,566	\$ (4,000,974)	\$ (1,409,822)	\$ 3,741,537
STATUS QUO								
CITY OPERATED (CERT. 139)	\$ (5,681,963)	\$ -	\$ (8,934,427)	\$ (6,176,601)	\$ (1,405,397)	\$ (9,682,937)	\$ (7,091,785)	\$ (1,940,426)
MASSPORT OPERATED (67% CONTRIBUTION)	\$ 3,252,463	\$ 8,934,427	\$ -	\$ 2,757,825	\$ 7,529,030	\$ (748,511)	\$ 1,842,642	\$ 6,994,000
MASSPORT OPERATED (50% CONTRIBUTION)	\$ 494,638	\$ 6,176,601	\$ (2,757,825)	\$ -	\$ 4,771,205	\$ (3,506,336)	\$ (915,183)	\$ 4,236,175
LIMITED COMMERCIAL ACTIVITY								
CITY OPERATED (CERT. 139)	\$ (4,276,566)	\$ 1,405,397	\$ (7,529,030)	\$ (4,771,205)	\$ -	\$ (8,277,540)	\$ (5,686,388)	\$ 535,030
MASSPORT OPERATED (67% CONTRIBUTION)	\$ 4,000,974	\$ 9,682,937	\$ 748,511	\$ 3,506,336	\$ 8,277,540	\$ -	\$ 2,591,152	\$ 7,742,511
MASSPORT OPERATED (50% CONTRIBUTION)	\$ 1,409,822	\$ 7,091,785	\$ (1,842,642)	\$ 915,183	\$ 5,686,388	\$ (2,591,152)	\$ -	\$ 5,151,358
EXTENDED RETURN OF SERVICE								
CITY OPERATED (CERT. 139)	\$ (3,741,537)	\$ 1,940,426	\$ (6,994,000)	\$ (4,236,175)	\$ 535,030	\$ (7,742,511)	\$ (5,151,358)	\$ -
MASSPORT OPERATED (67% CONTRIBUTION)	\$ 4,221,627	\$ 9,903,590	\$ 969,163	\$ 3,726,988	\$ 8,498,193	\$ 220,653	\$ 2,811,805	\$ 7,963,163
MASSPORT OPERATED (50% CONTRIBUTION)	\$ 1,716,242	\$ 7,392,205	\$ (1,542,222)	\$ 1,215,663	\$ 5,906,668	\$ (2,230,733)	\$ 366,426	\$ 5,451,778
RAPID RETURN OF SERVICE								

Obviously the most germane differentials are within activity scenario groupings. For example, comparing the difference in financial impacts between two different operating scenarios is only valid within a single aviation activity scenario. However, the difference between two differing operating scenarios and two differing aviation activity scenarios can provide insight into the risk associated with the combination of decision and the external variables such as aviation activity. The worst-case scenario may be so harmful to the City that it may wish to avoid it at all costs regardless of the probability. This also allows the City to easily compare various outcomes amongst themselves.

20-YEAR NPV THROUGH 2025

		STATUS QUO		LIMITED COMMERCIAL ACTIVITY		EXTENDED RETURN OF SERVICE		RAPID RETURN OF SERVICE	
	CITY OPERATED (GA)	CITY OPERATED (CERT. 139)	MASSPORT OPERATED (67% CONTRIBUTION)	CITY OPERATED (CERT. 139)	MASSPORT OPERATED (67% CONTRIBUTION)	CITY OPERATED (CERT. 139)	MASSPORT OPERATED (67% CONTRIBUTION)	CITY OPERATED (CERT. 139)	MASSPORT OPERATED (67% CONTRIBUTION)
CITY OPERATED (GA)	\$ -	\$ 11,160,354	\$ (6,343,327)	\$ 8,372,985	\$ (7,547,888)	\$ 6,073,670	\$ (8,350,755)	\$ (24,081,360)	\$ (19,424,490)
STATUS QUO									
CITY OPERATED (CERT. 139)	\$ (11,160,354)	\$ -	\$ (17,503,681)	\$ (2,787,369)	\$ (18,708,243)	\$ (5,086,684)	\$ (19,511,110)	\$ (35,241,714)	\$ (30,584,845)
MASSPORT OPERATED (67% CONTRIBUTION)	\$ 6,343,327	\$ 17,503,681	\$ -	\$ 14,716,312	\$ (1,204,562)	\$ 12,416,997	\$ (2,007,428)	\$ (17,738,033)	\$ (13,081,163)
LIMITED COMMERCIAL ACTIVITY									
CITY OPERATED (CERT. 139)	\$ (8,372,985)	\$ 2,787,369	\$ (14,716,312)	\$ -	\$ (15,920,874)	\$ (2,299,315)	\$ (16,723,741)	\$ (32,454,345)	\$ (27,797,475)
MASSPORT OPERATED (67% CONTRIBUTION)	\$ 7,547,888	\$ 18,708,243	\$ 1,204,562	\$ 15,920,874	\$ -	\$ 13,621,558	\$ (802,867)	\$ (16,533,472)	\$ (11,876,602)
EXTENDED RETURN OF SERVICE									
CITY OPERATED (CERT. 139)	\$ (6,073,670)	\$ 5,086,684	\$ (12,416,997)	\$ 2,299,315	\$ (13,621,558)	\$ -	\$ (14,424,425)	\$ (30,155,030)	\$ (25,498,160)
MASSPORT OPERATED (67% CONTRIBUTION)	\$ 8,350,755	\$ 19,511,110	\$ 2,007,428	\$ 16,723,741	\$ 802,867	\$ 14,424,425	\$ -	\$ (15,730,605)	\$ (11,073,735)
RAPID RETURN OF SERVICE									
CITY OPERATED (CERT. 139)	\$ 24,081,360	\$ 35,241,714	\$ 17,738,033	\$ 32,454,345	\$ 16,533,472	\$ 30,155,030	\$ 15,730,605	\$ -	\$ 4,656,870
MASSPORT OPERATED (67% CONTRIBUTION)	\$ 19,424,490	\$ 30,584,845	\$ 13,081,163	\$ 27,797,475	\$ 11,876,602	\$ 25,498,160	\$ 11,073,735	\$ (4,656,870)	\$ -

15-YEAR NPV THROUGH 2020

		STATUS QUO		LIMITED COMMERCIAL ACTIVITY		EXTENDED RETURN OF SERVICE		RAPID RETURN OF SERVICE	
	CITY OPERATED (GA)	CITY OPERATED (CERT. 139)	MASSPORT OPERATED (67% CONTRIBUTION)	CITY OPERATED (CERT. 139)	MASSPORT OPERATED (67% CONTRIBUTION)	CITY OPERATED (CERT. 139)	MASSPORT OPERATED (67% CONTRIBUTION)	CITY OPERATED (CERT. 139)	MASSPORT OPERATED (67% CONTRIBUTION)
CITY OPERATED (GA)	\$ -	\$ 8,619,318	\$ (4,916,552)	\$ 6,551,184	\$ (5,883,766)	\$ 5,331,256	\$ (6,330,436)	\$ (12,164,078)	\$ (13,226,471)
STATUS QUO									
CITY OPERATED (CERT. 139)	\$ (8,619,318)	\$ -	\$ (13,535,871)	\$ (2,068,134)	\$ (14,503,085)	\$ (3,288,062)	\$ (14,949,754)	\$ (20,783,396)	\$ (21,845,789)
MASSPORT OPERATED (67% CONTRIBUTION)	\$ 4,916,552	\$ 13,535,871	\$ -	\$ 11,467,737	\$ (967,214)	\$ 10,247,808	\$ (1,413,883)	\$ (7,247,526)	\$ (8,309,918)
LIMITED COMMERCIAL ACTIVITY									
CITY OPERATED (CERT. 139)	\$ (6,551,184)	\$ 2,068,134	\$ (11,467,737)	\$ -	\$ (12,434,951)	\$ (1,219,928)	\$ (12,881,620)	\$ (18,715,262)	\$ (19,777,655)
MASSPORT OPERATED (67% CONTRIBUTION)	\$ 5,883,766	\$ 14,503,085	\$ 967,214	\$ 12,434,951	\$ -	\$ 11,215,022	\$ (446,669)	\$ (6,280,312)	\$ (7,342,704)
EXTENDED RETURN OF SERVICE									
CITY OPERATED (CERT. 139)	\$ (5,331,256)	\$ 3,288,062	\$ (10,247,808)	\$ 1,219,928	\$ (11,215,022)	\$ -	\$ (11,661,691)	\$ (17,495,334)	\$ (18,557,726)
MASSPORT OPERATED (67% CONTRIBUTION)	\$ 6,330,436	\$ 14,949,754	\$ 1,413,883	\$ 12,881,620	\$ 446,669	\$ 11,661,691	\$ -	\$ (5,833,642)	\$ (6,896,035)
RAPID RETURN OF SERVICE									
CITY OPERATED (CERT. 139)	\$ 12,164,078	\$ 20,783,396	\$ 7,247,526	\$ 18,715,262	\$ 6,280,312	\$ 17,495,334	\$ 5,833,642	\$ -	\$ (1,062,393)
MASSPORT OPERATED (67% CONTRIBUTION)	\$ 13,226,471	\$ 21,845,789	\$ 8,309,918	\$ 19,777,655	\$ 7,342,704	\$ 18,557,726	\$ 6,896,035	\$ 1,062,393	\$ -

10-YEAR NPV THROUGH 2015

		STATUS QUO		LIMITED COMMERCIAL ACTIVITY		EXTENDED RETURN OF SERVICE		RAPID RETURN OF SERVICE	
	CITY OPERATED (GA)	CITY OPERATED (CERT. 139)	MASSPORT OPERATED (67% CONTRIBUTION)	CITY OPERATED (CERT. 139)	MASSPORT OPERATED (67% CONTRIBUTION)	CITY OPERATED (CERT. 139)	MASSPORT OPERATED (67% CONTRIBUTION)	CITY OPERATED (CERT. 139)	MASSPORT OPERATED (67% CONTRIBUTION)
CITY OPERATED (GA)	\$ -	\$ 5,681,963	\$ (3,252,463)	\$ 4,276,566	\$ (4,000,974)	\$ 3,741,537	\$ (4,221,627)	\$ (4,810,503)	\$ (8,166,375)
STATUS QUO									
CITY OPERATED (CERT. 139)	\$ (5,681,963)	\$ -	\$ (8,934,427)	\$ (1,405,397)	\$ (9,682,937)	\$ (1,940,426)	\$ (9,903,590)	\$ (10,492,467)	\$ (13,848,338)
MASSPORT OPERATED (67% CONTRIBUTION)	\$ 3,252,463	\$ 8,934,427	\$ -	\$ 7,529,030	\$ (748,511)	\$ 6,994,000	\$ (969,163)	\$ (1,558,040)	\$ (4,913,911)
LIMITED COMMERCIAL ACTIVITY									
CITY OPERATED (CERT. 139)	\$ (4,276,566)	\$ 1,405,397	\$ (7,529,030)	\$ -	\$ (8,277,540)	\$ (535,030)	\$ (8,498,193)	\$ (9,087,070)	\$ (12,442,941)
MASSPORT OPERATED (67% CONTRIBUTION)	\$ 4,000,974	\$ 9,682,937	\$ 748,511	\$ 8,277,540	\$ -	\$ 7,742,511	\$ (220,653)	\$ (809,529)	\$ (4,165,401)
EXTENDED RETURN OF SERVICE									
CITY OPERATED (CERT. 139)	\$ (3,741,537)	\$ 1,940,426	\$ (6,994,000)	\$ 535,030	\$ (7,742,511)	\$ -	\$ (7,963,163)	\$ (8,552,040)	\$ (11,907,912)
MASSPORT OPERATED (67% CONTRIBUTION)	\$ 4,221,627	\$ 9,903,590	\$ 969,163	\$ 8,498,193	\$ 220,653	\$ 7,963,163	\$ -	\$ (588,877)	\$ (3,944,748)
RAPID RETURN OF SERVICE									
CITY OPERATED (CERT. 139)	\$ 4,810,503	\$ 10,492,467	\$ 1,558,040	\$ 9,087,070	\$ 809,529	\$ 8,552,040	\$ 588,877	\$ -	\$ (3,355,871)
MASSPORT OPERATED (67% CONTRIBUTION)	\$ 8,166,375	\$ 13,848,338	\$ 4,913,911	\$ 12,442,941	\$ 4,165,401	\$ 11,907,912	\$ 3,944,748	\$ 3,355,871	\$ -

5-YEAR NPV THROUGH 2005

		STATUS QUO		LIMITED COMMERCIAL ACTIVITY		EXTENDED RETURN OF SERVICE		RAPID RETURN OF SERVICE	
	CITY OPERATED (GA)	CITY OPERATED (CERT. 139)	MASSPORT OPERATED (67% CONTRIBUTION)	CITY OPERATED (CERT. 139)	MASSPORT OPERATED (67% CONTRIBUTION)	CITY OPERATED (CERT. 139)	MASSPORT OPERATED (67% CONTRIBUTION)	CITY OPERATED (CERT. 139)	MASSPORT OPERATED (67% CONTRIBUTION)
CITY OPERATED (GA)	\$ -	\$ 2,286,476	\$ (1,313,352)	\$ 1,664,735	\$ (1,693,902)	\$ 1,543,918	\$ (1,748,604)	\$ (898,651)	\$ (3,043,926)
STATUS QUO									
CITY OPERATED (CERT. 139)	\$ (2,286,476)	\$ -	\$ (3,599,828)	\$ (621,741)	\$ (3,980,378)	\$ (742,558)	\$ (4,035,080)	\$ (3,185,127)	\$ (5,330,402)
MASSPORT OPERATED (67% CONTRIBUTION)	\$ 1,313,352	\$ 3,599,828	\$ -	\$ 2,978,087	\$ (380,550)	\$ 2,857,269	\$ (435,252)	\$ 414,701	\$ (1,730,575)
LIMITED COMMERCIAL ACTIVITY									
CITY OPERATED (CERT. 139)	\$ (1,664,735)	\$ 621,741	\$ (2,978,087)	\$ -	\$ (3,358,637)	\$ (120,817)	\$ (3,413,339)	\$ (2,563,386)	\$ (4,708,662)
MASSPORT OPERATED (67% CONTRIBUTION)	\$ 1,693,902	\$ 3,980,378	\$ 380,550	\$ 3,358,637	\$ -	\$ 3,237,820	\$ (54,702)	\$ 795,251	\$ (1,350,024)
EXTENDED RETURN OF SERVICE									
CITY OPERATED (CERT. 139)	\$ (1,543,918)	\$ 742,558	\$ (2,857,269)	\$ 120,817	\$ (3,237,820)	\$ -	\$ (3,292,522)	\$ (2,442,569)	\$ (4,587,844)
MASSPORT OPERATED (67% CONTRIBUTION)	\$ 1,748,604	\$ 4,035,080	\$ 435,252	\$ 3,413,339	\$ 54,702	\$ 3,292,522	\$ -	\$ 849,953	\$ (1,295,322)
RAPID RETURN OF SERVICE									
CITY OPERATED (CERT. 139)	\$ 898,651	\$ 3,185,127	\$ (414,701)	\$ 2,563,386	\$ (795,251)	\$ 2,442,569	\$ (849,953)	\$ -	\$ (2,145,275)
MASSPORT OPERATED (67% CONTRIBUTION)	\$ 3,043,926	\$ 5,330,402	\$ 1,730,575	\$ 4,708,662	\$ 1,350,024	\$ 4,587,844	\$ 1,295,322	\$ 2,145,275	\$ -